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ABSTRACT

These publications contain three of the topics for Strand II, Sociological Health Problems, which have been prepared as part of the kindergarten through twelve health syllabus revision project. The material included is intended for use in grades four through twelve. The topics covered are alcohol education, drugs and narcotics, and smoking. The booklets are set up in the following format; (1) reference or topic: (2) major understandings and fundamental concepts; (3) suggested teaching aids and learning activities; and (4) supplementary information for teachers. A bibliography including books, periodicals, films, and filmstrips, and pamphlets are given for each topic at each grade level. (KJ/Author)

EDO 43064

PROTOTYPE

CURRICULUM MATERIALS
FOR THE ELEMENTARY
AND SECONDARY GRADES

HEALTH

GRADES 4,5,6

STRAND II SOCIOLOGICAL HEALTH PROBLEMS

A. ALCOHOL

B. DRUGS and NARCOTICS

C. SMOKING

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THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTMENT
THE CURRICULUM DEVELOPMENT CENTER/ALBANY, NEW YORK 12224

HEALTH CURRICULUM MATERIALS

FOR GRADES 4,5,6

Strand II, Sociological Health Problems
Alcohol
Drugs
Smoking

1968 Reprint

The University of the State of New York/The State Education Department
Curriculum Development Center/Albany 12224
1967

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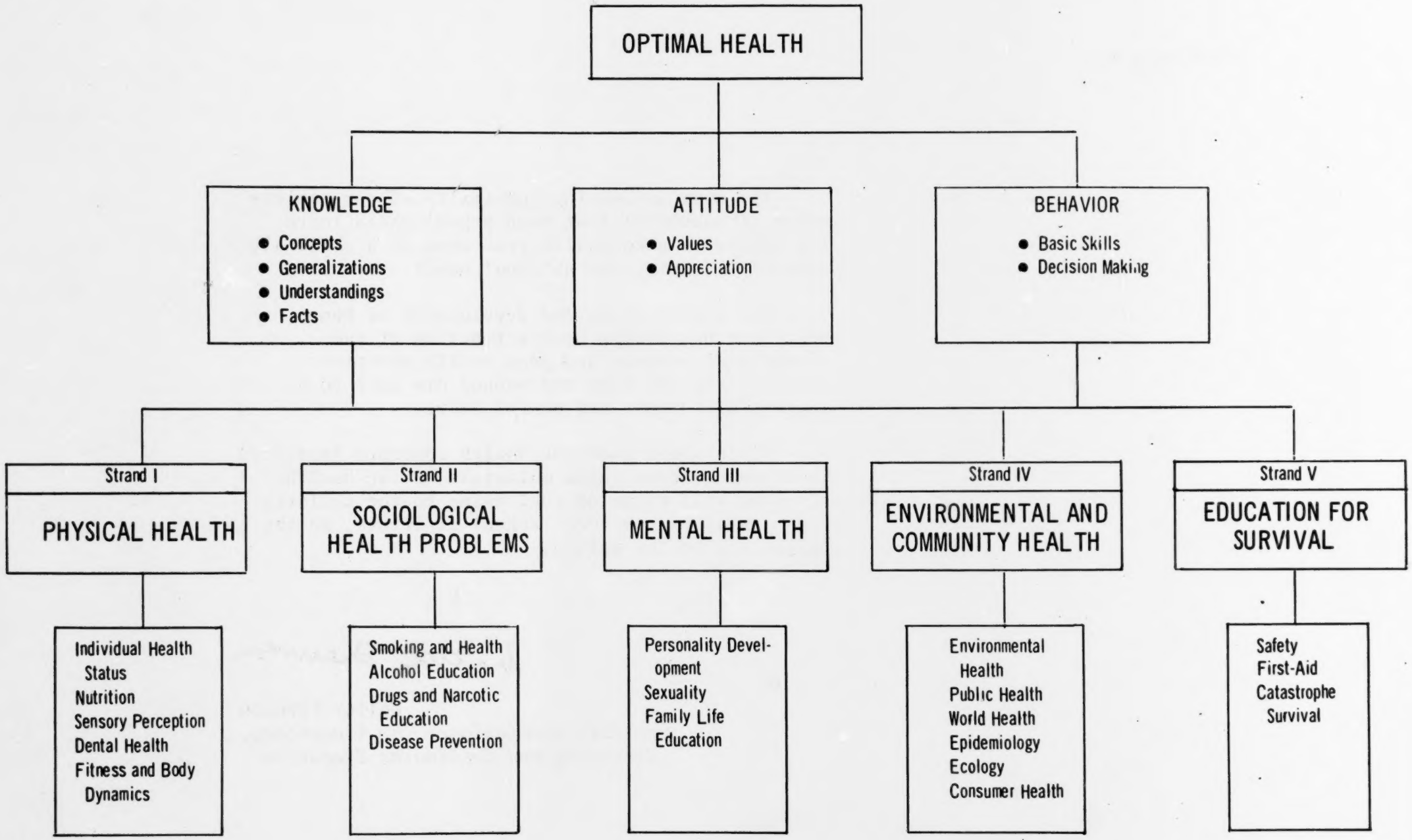
Prefatory Note

The ever increasing complexity of our society makes it essential that each school child learn the values of good health practices on a personal, community, state, and national basis.

The conservation and development of human resources has always been a function of the educational process, and good health practices developed in the home and school are keys to a successful, happy, and useful life.

It is hoped that the health concepts developed in these new curriculum materials in the health sciences will prove of real value to the children and parents of our local school districts, to the State, and to the Nation.

Walter Crewson
Associate Commissioner for Elementary, Secondary and Continuing Education


OPTIMAL HEALTH
KNOWLEDGE
Concepts
Generalizations
Understandings
Facts
ATTITUDE
Values
Appreciation
BEHAVIOR
Basic Skills
Decision Making
Strand I
PHYSICAL HEALTH
Individual Health Status
Nutrition
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Dental Health
Fitness and Body Dynamics
Strand II
SOCIOLOGICAL HEALTH PROBLEMS
Smoking and Health
Alcohol Education
Drugs and Narcotic Education
Disease Prevention
Strand III
MENTAL HEALTH
Personality Development
Sexuality
Family Life Education
Strand IV
ENVIRONMENTAL AND COMMUNITY HEALTH
Environmental Health
Public Health
World Health
Epidemiology
Ecology
Consumer Health
Strand V
EDUCATION FOR SURVIVAL
Safety
First-Aid
Catastrophe Survival

FOREWORD

This publication contains three of the topics for Strand II, Sociological Health Problems, which have been prepared as part of the K-12 health syllabus revision project. The material included herein is intended for use in grades 4, 5, and 6. Similar publications are available for these same three areas — alcohol education, drugs and narcotics, and smoking — for use in grades 7, 8, and 9 and in grades 10, 11, and 12. The health coordinator in a school system should make use of all three publications in planning a local K-12 program. Other materials to complete this strand and for the other strands shown in the chart on page iv are in various stages of planning or development and will be distributed as they are completed.

The curriculum materials presented in this prototype strand have been prepared in response to an increased public interest in the health sciences. Problems of air and water contamination, the misuse of drugs, the habituation tendencies of alcohol and tobacco, and the diet fad inspired use of food adulterants, have led knowledgeable people to demand increased health instruction in the schools of New York State.

The development of these curriculum materials as part of a K-12 program should lead to a well articulated educational program in health. The format also makes it possible for full time health teachers, physical education teachers, science teachers, broad spectrum elementary teachers, school nurse teachers, and dental hygiene teachers to adapt special areas to their own programs.

The first drafts of the manuscripts for the three parts of this strand were written by a team at the State University College at Cortland under the leadership of Dr. John S. Sinacore, Professor of Health Education. Dr. Sinacore prepared the section on drugs and narcotics; Lawrence B. O'Reilly, Assistant Professor of Health Education, wrote the section on smoking; and Leonard T. Gath, Associate Professor of Health Education, wrote the section on Alcohol. Eugene V. Bowers, Professor of Health Education, State University College at Brockport; Dr. James Quinliven, Director, Office of Public Health Education, and Miss Rita Pacheco, Supervising Public Health Educator, of the New York State Department of Health; John R. Butler, Director, Bureau of Alcoholism, and Mary M. Burgess, Supervisor of Alcohol Education, New York State Department of Mental Hygiene; reviewed the manuscript and made valuable suggestions.

John L. House, formerly Assistant in Health Education, coordinated the writing-editing efforts and established the developmental pattern in association with James A. Howarth, Associate in Elementary Curriculum, and Robert F. Zimmerman, Associate in Secondary Curriculum.

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INTRODUCTION

Optimal health is dependent upon the interaction of knowledge, attitude, and behavior. The content of this health curriculum guide has been established as a five-strand approach to the concepts, generalizations, understandings, and facts; the values and applications; the basic skills; and the decision-making processes that are the keys to good health. The five-strand approach provides maximum flexibility for program development in the schools, and makes it possible to utilize the services of writer-consultants who are experts in their fields.

At the elementary school level, pupils should experience basic instruction in each of the major strands prior to the completion of the 6th grade. Elementary school health education experiences have been traditionally based upon the concept of sequential organization of the total spectrum of the health curriculum content in each grade with a gradual increase of the depth and scope of instruction as the pupil progresses through the grades.

The depth exploration of specific health areas by grade does not minimize the need to develop information from related health topics as a reinforcement to developing knowledges and concepts. The teacher will probably find that health problems which arise will require the addition of health information from related areas.

At the junior high school level individual strands might be developed in depth or a combination of strands may be developed in accord with local conditions and the developmental needs or special interests of the pupils.

A general health education course based upon content from all of the strands could constitute the initial senior high school pupil health education experience. Following this generalized overview, special interest depth studies of specific strands on an elective basis might be developed to meet specific student interests.

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A L C O H O L E D U C A T I O N

An Experimental Unit for Grades 4,5,6

INTRODUCTION TO ALCOHOL EDUCATION

Man has used beverage alcohol from the dawn of history. It has been used in cultural rites, religious ritual, and as a medication. Yet social, medical, and personal problems have arisen from the misuse of beverage alcohol.

Alcohol education should be based upon facts in order that today's pupil may make intelligent decisions that are vital to the health and welfare of himself and the society of which he is a part.

ALCOHOL EDUCATION

(Teaching Units for Grades 4 through 12)

INTERMEDIATE GRADES (grades 4, 5, & 6)

I. The Nature of Alcohol

II. The Use of Alcohol in the Early Days in America

III. Alcohol in the Human Body

IV. Elimination

V. Alcohol and Problems

VI. Alcohol and the Family

JUNIOR HIGH SCHOOL (grades 7, 8, & 9)

I. The Adolescent and Alcohol

II. The Use of Alcohol in the United States

III. The Social Problems Associated with Beverage Alcohol

IV. Legislative Control and Economics of Alcohol

SENIOR HIGH SCHOOL (grades 10, 11, & 12)

I. Alcohol and Mental Health

II. Physiological Effects of Alcohol

III. The Psychological Effects of Alcohol

IV. Alcoholism - A Medical Problem

V. Other Disease Forms Associated with Alcoholism

VI. Rehabilitation and Treatment

VII. Research Agencies and Prevention of Alcoholism

INTRODUCTION TO ALCOHOL EDUCATION

Grades 4, 5, 6

OUTCOMES:

1. To understand the nature of alcohol and its effects on family and community life

2. To understand the economic aspects of alcohol use

3. To acquire a knowledge of the uses and abuses of alcohol

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Nature of Alcohol			
A. Definition and Properties	There are different types of alcohol.	Have students make a bulletin board for school sharing concerning the uses of alcohol in industry and medicine; and the effects of its ingestion in the human body.	
1. Ethyl alcohol	Ethyl alcohol is found in alcoholic beverages.		Today, "alcohol," generally means <u>ethyl</u> alcohol or grain alcohol. <u>Ethyl</u> alcohol is clear, colorless, inflammable, gives a burning sensation in the mouth, and has a pleasant odor. It is produced by the fermentation of sugars or starches.
2. Methyl alcohol	Methyl alcohol is highly poisonous.		<u>Methyl</u> alcohol has benzenes or camphor added to make it unfit as a beverage. Methyl alcohol is <u>very toxic</u>. It is decomposed and eliminated from the body very slowly. The chief symptoms of methyl alcohol intoxication include irritation of the mucous membranes, headaches, nausea, vomiting, muscular incoordination, colic, dilated pupils, impaired vision, blindness, delirium, coma, and sometimes death may occur as a result of methyl alcohol poisoning.
	Certain liquids are necessary for growth, others are not conducive to good health.		
B. Vitamins	Alcohol has little nutrient value.	Make a class list from library books showing body deficiencies in vitamins and minerals.	Alcohol contains <u>no</u> vitamins, proteins, or minerals.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
C. Calories			Alcohol has high calorie value. A glass of beer (8 oz.) contains about 100 calories.
	Milk and fruit juices are more nutritious than most other beverages.		One ounce of whiskey contains about 75 calories. If the whiskey is mixed with soft drink, the person gets more calories from the sugar content.
		Have students compare the body's use of alcohol with its use of proteins, fats, and carbohydrates.	
D. Glandular Action	Alcohol is a food and a drug.		Proteins mix with alcohol thus slowing absorption (meat, cheese, eggs, milk).
E. Manufacture of Alcohol	Beverage (ethyl) alcohol and industrial alcohol are manufactured differently.		Industrial alcohol is now manufactured from petroleum products. Beverage alcohol is made by fermentation of sugars produced from grains, or from sugar cane or grapes, with yeast, the end products being alcohol and carbon dioxide.
		Visit a laboratory where chemicals and compounds of alcohol are manufactured to see what part alcohol plays in production.	
F. Industrial-Commercial Alcohol Is Poisonous		Scan newspapers and articles for deaths caused by drinking industrial alcohol.	Industrial alcohol is a poison that can cause death.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
G. Commercial Uses of Alcohol in Food and Medical Products, Flavoring, Solvents, Medicines, and Antiseptics	Alcohol is used to manufacture many products.	Have students examine labels on bottles in the kitchen and medicine cabinet for alcoholic content.	Shaving lotions contain as much as 35% alcohol. Vanilla extract may contain 30% alcohol and cough medicine 3%, iodine 2%. Hair tonic has about 70% alcohol.
		Have a chemist discuss uses of alcohol.	A 70% or stronger solution of alcohol cools the skin through evaporation. Used to bring down fever.
		Write to manufacturers of hair tonics and/or perfumes to see how alcohol aids in the preparation of their products.	Alcohol kills germs and is a good skin disinfectant. Used on the feet to prevent contagious skin conditions of the feet. Helps prevent bed sores in bedridden patients.
		Show a can of antifreeze or paint and study the contents used in the manufacture of the product.	Alcohol is also used for antifreeze in car radiators, solvent in paint and varnishes, plastics, cleaning solutions, cellulose products, explosives, dyes, etc.
		Film: (20 Min.) Friendly Enemy, W.C.T.U. - Uses in Industry (6th Grade).	Brewery mash, a by-product, is used as cattle feed.
H. Medicinal Uses	1. Beverage alcohol can be used for medicinal reasons and may be classified as an anesthetic, narcotic, sedative, tranquilizer, or hypnotic.	Ask a local physician for what conditions he might prescribe alcohol for a patient.	Alcohol provides energy rapidly. It may be used as a sedative.
	2. Beverage alcohol is sometimes prescribed by physicans when there is no specific drug developed to remedy a particular condition.		Alcohol increases the output of urine. It may be used as a nutritional supplement (the body uses alcohol first and stores calories from food).

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Alcohol intake may benefit certain heart conditions because it dilates blood vessels (angina).
			Dilation of blood vessels is sometimes described in patients who have arthritis. Alcohol is sometimes used to relieve pain, the feeling of chilliness, instability and/or tension, and to enhance appetite.
			Sometimes following an operation, there is a need for calories and sedation.
II. The Use of Alcohol in the Early Days in America			
A. Colonies	Alcohol beverages were used in the colonies.		
1. Virginia			In 1619 the Virginia Colony passed the first law against excessive drinking. In 1637 a Captain Sedgwick built the first brewery in America.
2. New England			In New England the excessive drinker was whipped and forced to wear a red "D" about his neck.
			During the American Revolutionary Period, brewing, distilling, and wine making were common. The residue was fed to the animals.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			In 1791, the newly formed government of the U.S. imposed a tax on distilled liquor, to control the use of alcohol, and to raise revenue. Some settlers moved to Ohio Territory to dodge the tax. Farmers in Pennsylvania refused to pay the tax, and an army was sent to enforce the law.
III. Alcohol in the Human Body	Alcohol affects the body systems and organs.	Draw and label a figure of a man showing the systems and organs affected.	
A. Absorption			Alcohol is absorbed at once, producing heat and energy.
1. Stomach	Alcohol is absorbed readily from the stomach and small intestines.		There is a temporary rise in hydrochloric acid in the stomach when you take in alcohol.
2. Small Intestines			Alcohol enters the bloodstream almost immediately--about 20% is absorbed from stomach and 80% from small intestines.
3. Bloodstream			
a. Transport	The bloodstream will absorb most of the alcohol and serves as a vehicle by which it is carried to other cells in the body.		Alcohol is diffused and leaves the bloodstream and enters the cells.
b. Oxidation	The liver oxidizes alcohol.		Oxidation takes place in the liver.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Effect on Systems	Alcohol causes several reactions within body systems.		
(1) Nervous			The bloodstream carries alcohol to the brain where it acts as a depressant on the cerebral cortex and affects: judgment euphoria, lessens inhibitions concentration and memory sense organs (vision and hearing) muscular control clumsiness reaction time lengthened
(2) Circulatory			The immediate result from the ingestion of alcohol are: 1. speeds up the heart, 2. speeds up the pulse rate, 3. causes rise in blood pressure, 4. dilates blood vessels, 5. causes person to perspire but lowers skin temperature, 6. causes a marked increase in urine output. These effects last about 15 minutes. Continued ingestion of alcohol results in a depressant action of reducing these processes.
IV. Elimination	Most of the alcohol that enters the body is eliminated by the kidneys via the urine.	Discuss the elimination of alcohol by the body.	Alcohol is eliminated in urine, breath, perspiration, and fecal wastes.
V. Alcohol and Problems	People use alcoholic beverages differently.	Class discussion - Excessive use of beverage alcohol may lead to problems.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Problems: auto accidents physical deterioration social problems family problems economic problems
VI. Alcohol and the Family	Families use alcohol beverages differently.		
	Alcohol may not be the real cause of problems.	Have a local court judge or physician visit and comment on the problems caused by the use and misuse of alcohol.	Deviant drinkers as a group have a large number of divorces, and they indicate that drinking was a cause of marital discord.
			Many families use alcohol with no social problems.
	There is a direct relationship between drinking in the home and use of alcohol by children.		
A. Attitudes Are Learned			Children of alcoholics are likely to become excessive drinkers because: 1. Example of excessive drinking by parent. 2. Lack of parental control and poor home environment. 3. Personality disorders of the parents predispose them to use alcohol as did their parents.
	Alcoholism is an illness.	Discuss professionals available who can treat alcoholism.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			The greatest influence on a child's decision to drink or not to drink is the home. There is some evidence that parent relations play an important role. Teachers must remember that children in class may come from a family where alcohol is a problem.
B. Economic Aspects	Alcoholic beverages are a large expenditure item in some family budgets.	Compare the cost of beverage alcohol and the cost of nutritious foods.	Alcohol is an expensive item in some family budgets. Some families use wine and beer as custom or tradition, and the cost is figured in with the food budget. Americans spend about $10 billion a year for alcoholic beverage and about $70 billion for food a year.

ALCOHOL EDUCATION

Supplementary Information

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ALCOHOL EDUCATION

Suggested AudioVisual Aids

Films

Alcohol in the Human Body. Sid Davis Productions, 14 minutes, color.

Alcohol is Dynamite. Sid Davis Productions, 11 minutes, black and white.

Alcoholism. E. B. F. State Health Department, 22 minutes.

Family Affair. WCTU (Colorado University), 10 minutes.

Friendly Enemy. WCTU (Colorado University), 20 minutes.

Highball Highway. Charles Cahill Association, 5746 Sunset Blvd., Hollywood, California, 12 minutes.

I am an Alcoholic. McGraw-Hill (Brigham Young University), 17 minutes.

It's Best to Know. Onondaga Council on Alcoholism, Syracuse, New York, 8 minutes, black and white.

Nightmare of the Bold. U. S. Air Force, 8900 Broadway, St. Louis, Missouri, 53 minutes.

None for the Road. McGraw-Hill, 16 minutes, black and white.

Out of Orbit. M-S-B-A Michigan State Board of Alcoholism, 14 minutes, color.

Problem Drinkers. MGH - State Health Department, Film Library, 19 minutes.

Should You Drink? McGraw-Hill - University of Illinois, 22 minutes, black and white.

The Alcoholic Criminal. N.E.T. (Indiana University), 30 minutes.

The Bold Faces the Facts. WCTU, 1730 Chicago Avenue, Evanston, Illinois, 13 minutes.

The Bottle and the Throttle. Sid Davis Productions, 10 minutes, color.

The Brain is the Reason. WCTU, 1730 Chicago Avenue, Evanston, Illinois, 20 minutes.

Films (cont'd)

The Mixer. M.R.A. Mutual Insurance Co., Columbia, Missouri, 10 minutes.

The Silent Witness. W.M.S. Merrill Co., Cincinnati, Ohio, 28 minutes.

To Your Health. N.Y.S. Department of Mental Hygiene, 10 minutes, color.

What About Alcoholism. McGraw-Hill T.F., 11 minutes.

What About Drinking. Young America Films, Department of Mental Hygiene, State Health Department, Film Library, 11 minutes.

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Drinking, Drugs, and Driving. McGraw-Hill, 30 frames.

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D R U G S A N D N A R C O T I C S

An Experimental Unit for Grades 4,5,6

OVERVIEW

Drugs are increasingly becoming a part of the everyday lives of people. There has been a dramatic increase in the number of kinds of drugs available to the general public for varying ailments and needs. In order that these substances may be used properly and safely, it becomes necessary to educate people as to the nature of drugs, the positive contributions they can make, and the dangers involved in their misuse.

There has been a growing concern among health authorities in this country with the overly casual approach people have to the use of these agents. This is reflected not only in drug experimentation among our youth, but with an increased rate of accidental drug poisoning, suicide, and general misuse of drugs among adults and youth alike.

Respect for and understanding of these powerful agents should start at an early age for the protection of the individual and ultimately the society he is a part of.

> The term "drug" means articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States or official National Formulary, or any supplement to any of them; articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and articles (other than food) intended to affect the structure or any function of the body of man or other animals; and articles intended for use as a component of any article specified.

DRUGS AND NARCOTICS

(Teaching Units for Grades 4 through 12)

INTERMEDIATE GRADES (grades 4, 5, & 6)

I. Early Man's Use of Drugs

II. Modern Drugs and Their Contributions

III. The Use and Misuse of Drugs

JUNIOR HIGH SCHOOL (grades 7, 8, & 9)

I. The Development of Modern Drugs

II. Prescription Drugs

III. Nonprescription Drugs (Over-the-Counter Drugs)

IV. Safeguarding Drugs and Their Use

V. The Historical Use of Drugs

VI. Habit Forming and Addicting Drugs

SENIOR HIGH SCHOOL (grades 10, 11, & 12)

I. Addiction and Habituation

II. The Narcotic Drugs

III. Marihuana

IV. Stimulants

V. Drug Traffic

VI. Legislation

VII. Rehabilitation of the Addict

O U T C O M E S

THE PUPIL IN GRADES 4, 5, and 6 SHOULD:

-- understand man's uses of drugs.

-- appreciate the role drugs play in the control of disease and pain.

-- understand the nature and basic differences among drugs.

-- realize that drugs are potent agents that have potential for serious harm if misused.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Early Man's Use of Drugs	Man has used drugs in one form or another for thousands of years.	Refer to The Suggested Student Reading List for student outside readings.	There is evidence that drugs were used as far back as 2100 B.C.
A. Magical Relationship	The early use of drugs was associated with magic.		Pain was once thought to be caused by demons. Pain relieving drugs that "cast out the demons" were considered to have magical qualities.
B. Pain Relievers	Ancient cultures developed pain relieving drugs from plants.		Aesculapius, the Greek God of Medicine, used a potion made from herbs to relieve pain.
		Which drugs used today are derived from plants?	Curare - a muscle relaxant Digitalis - Foxglove - blood vessel dilator Ephedrine - a stimulant - constricts small arteries Penicillin - penicillium - anti-bacterial drug Quinine - Cinchona bark - anti-malarial Reserpine - Rauwolfia serpentina (shrub from India) - a tranquilizer
	While sleep producing drugs (anesthetics) were known to man since 400 B.C. they were not used for surgery until the 19th century.		Crude forms of some of these drugs were used long before the era of modern medicine.
C. Lasting Value of Some Early Drugs	A number of drugs in use today were discovered and used by primitive people, e.g. curare was used by natives who placed the drug on the tips of their darts and arrows to paralyze the game they hunted. Modern medicine uses it as a relaxant.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
D. Drugs - Helpful or Harmful	Even in earliest times, man was concerned with the use of drugs.		The Greeks used poisonous drugs to carry out capital punishment, e.g. the execution of Socrates. At the time of Hippocrates, drugs were used to relieve pain and treat illness.
	Many of the early medicines had no effect on the ailments they were used for. People using them felt better because they thought they were being helped. The same thing is true today.	Survey the number of drugs, home remedies, and concoctions used for the common cold. What purpose do they serve?	Sometimes a drug has value as a suggestive aid. With reference to drugs for the common cold they serve to treat symptoms, they do not treat the disease state itself.
	Our forefathers learned about drugs through experience. Some drugs proved to be poisonous, some helpful, and others produced life-long addiction.	What means do we now use to test drugs before they are used by people?	Shakespeare often refers to addicting drugs in his works. Because they often caused death, they fell into disrepute and were discredited by the physicians of that time. Drugs were used by the sorcerers of that era.
II. Modern Drugs and Their Contributions			
A. Disease	Drugs play an important role in the control of disease.		Drugs like sulfanilamides help to destroy disease causing bacteria. Drugs can control body reactions such as inflammatory reactions in arthritis and convulsions in epilepsy Numerous drugs can relieve pain. These range from aspirin to the powerful addicting opiates.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Drugs that affect a person's mood may be helpful to a person during a period of distress or tragedy.
1. How Drugs Function	Drugs may destroy some disease germs, control body reactions, relieve pain, and affect a person's mood.		
	Drugs play an important role in surgery, painless dentistry and childbirth.		Drugs are used as anesthetics for surgery patients and to disinfect surgical instruments and dressings.
2. Effects of Drugs	Drugs can help people overcome disease effectively and quickly.	Compare incidence of bacterially caused communicable diseases in 1900 as compared to present.	The incidence of a disease can be minimized by prompt drug therapy.
	Some diseases do not occur as frequently because drugs can prevent them or overcome them before they can be spread to others.	Invite the school nurse to discuss a specific problem like "pinkeye." What role do drugs play in the treatment and control of this disease.	The incidence of many bacterially caused diseases are under much greater control (tuberculosis, bacterial pneumonia, streptococcal infections, etc.)
	People tolerate the ravages of disease better because of pain relieving and mood modifying drugs.		
	Drugs have made surgery safer and painless.		
	Our society is healthier and people live longer due to improved diet, better medical care, and proper use of drug medication.	What kinds of health problems are prevalent in more primitive societies where helpful drugs are not available to control disease?	Life expectancy in the United States is over 70 years. In countries where drugs and modern medicine are not available, life expectancy is considerably less.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
III. The Use and Misuse of Drugs			
A. Types of Drugs			
1. Prescription Drugs	Prescription drugs can only be legally purchased with a doctor's prescription.	Why is the physician the only one who should prescribe drugs?	Drugs can be dangerous and should be used with care.
		Who are some of the people who are called "doctor" but are not medical doctors and therefore cannot prescribe drugs?	People who are sometimes called "doctor" but are not medical doctors include pharmacists, chiropractors, podiatrists, optometrists, and college professors.
2. Nonprescription Drugs	Nonprescription drugs may be bought without a doctor's prescription. Many of them contain a warning label, e.g. "if the condition persists, see a doctor."	Have students make lists of patent medications used for colds, muscle aches, headaches, upset stomach, etc. Invite the school physician to review the lists and evaluate the uses of these medications.	
B. The Proper Use of Drugs	Drugs are chemical substances which can be harmful if not properly used.		
1. Directions	The directions given by the doctor for the use of prescription drugs should be followed carefully.		Overdoses of drugs can be harmful while underdoses render the medication ineffective.
	Reading the labels of over-the-counter drugs is important so one may be guided in their proper use and possible dangers.	Inspect the labels of a number of nonprescription drugs for directions in their use and possible side effects.	The effects of a drug in a given person are never completely predictable. Drugs should be used only when necessary and in proper amounts.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. Storage	Some medicines must be refrigerated to prevent spoilage.		
	Old medicines in the medicine chest should be flushed down the toilet.	With a parent, evaluate the contents of a medicine chest. Dispose of old medicine, unlabeled bottles, outdated external antiseptics, e.g. iodine.	Medicines can "spoil" if allowed to stand too long and may become harmful.
3. Usage	Prescribed amounts of medicine may be helpful. Overdoses can be harmful.		Overdose of aspirin is a leading cause of accidental death among children.
	Medicines should be kept out of the reach of young children.		
	All drugs should be stored in medicine chests that can be locked.		
	Parents or adults must supervise their children's use of all drugs including the use of aspirin, vitamins, and external antiseptics.		
	Drugs should be accepted only from responsible adults; physicians, dentists, parents, relatives.		

DRUGS AND NARCOTICS

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S M O K I N G A N D H E A L T H

An Experimental Unit for Grades 4,5,6

O V E R V I E W

In view of the conclusive data indicting cigarette smoking as a cause of lung cancer, and additional evidence indicating that other cardiorespiratory illnesses may also be caused by smoking, the task of educating our population about the use of tobacco is urgent. If present lung cancer rates continue, we can expect that 1,000,000 of today's school children will develop lung cancer during their lifetime.

Research indicates that nearly 10% of habitual smoking begins at the seventh grade level and that countless youngsters experiment with smoking at earlier ages. It is, therefore, essential that instruction concerning the use of tobacco be implemented in the intermediate grades.

It is easier to discourage the formation of a habit than it is to eliminate the habit once it has developed. Thus, the pupil in grades 4, 5, and 6 must be provided the opportunity to appreciate the significance of tobacco, realize the health hazards associated with the use of tobacco, and develop understandings and attitudes which will lead him to an intelligent decision relative to his use or nonuse of tobacco.

SMOKING AND HEALTH

(Teaching Units for Grades 4 through 12)

INTERMEDIATE GRADES (grades 4, 5, & 6)

I. Your Decision About Smoking

II. Mans' Use of Tobacco

III. Tobacco and Health

IV. Deciding About Smoking

JUNIOR HIGH SCHOOL (grades 7, 8, & 9)

I. The Advertisement and Promotion of Tobacco

II. Developing the Smoking Habit

III. Physiological Effects of Tobacco

SENIOR HIGH SCHOOL (grades 10, 11, & 12)

I. Attitudes Toward the Use of Tobacco

II. Psycho-social Factors Related to Tobacco Use

III. Smoking Research and Reports

IV. Smoking Among High School Students

O U T C O M E S

THE PUPIL IN GRADES 4, 5, AND 6 SHOULD:

----understand the development of tobacco production and use so as to better appreciate its significance in America today

----realize that the increased consumption of tobacco in the United States is paralleled by a substantial increase in cardiorespiratory diseases

----know that modern research has demonstrated a causal relationship between lung cancer and smoking

----realize that smoking is detrimental to one's health and growth, and undermines the individual's ability to maximally participate in physical activities

----be able to arrive at a sound and sensible decision about tobacco use, based on scientific evidence

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Your Decision About Smoking	The young person's decision about smoking is one of several important decisions in his life and should be based on a firm foundation of scientific knowledge.	Students dramatize a situation in which a ten-year old is encouraged to smoke by his friends. Ask class members how they might have reacted in a similar situation.	It is estimated that 10% of habitual smoking begins in grade 7.
A. Important Considerations	Your decision about smoking will greatly influence your health as an adult.	SR #12	Teachers in the intermediate grades should expect that experimentation with tobacco products will sometimes occur at much earlier ages.
1. Effects of Smoking on One's Health			
a. Content of Smoke	Smoke from tobacco is made up of gases and particles.		Lung tissue and bronchial tubes in particular are affected.
b. Physiological Effects	When a person inhales smoke these gases and particles enter his breathing passages and are deposited on the surfaces. Some are absorbed in the blood and some remain to produce damaging effects on the lining membranes.		Normally the surfaces of the breathing mechanism are kept clean by the movement of little "hair-like" structures called cilia. This means that dust particles etc. are sort of "swept away" by their movement. The cigarette smoke (tobacco smoke) slows down or even stops this action. This means the "tar" will stay in contact with the surfaces over a longer period of time, with the result that irritation or infection may occur. It is thought that this condition may eventually lead to cancer.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Effects on heart and circulation: Increase in pulse rate Contraction of small blood vessels Lowering of skin temperature Increase in blood pressure Other effects: Chronic cough (in heavy smokers) Unattractive brown stains Lung cancer Shorter life Emphysema (possible) Effects on beginning smokers: Dizziness Faintness Rapid pulse Clammy skin Nausea Vomiting Diarrhea Irritability Possibly impaired vision or hearing All of the above effects may be associated with the beginner in smoking.
2. Effects of Smoking on Physical Performance	Men and women who began the smoking habit several years ago did not have the knowledge of the harmful effects of smoking that we have today.	Suggest that each student ask the following question of his parents: If you could make your decision to smoke or not to smoke all over again, would you start smoking?	A logical response to the student question - "Why do my parents or doctor smoke, if we know that it is not a healthful habit?", is to point out that when many adults started to smoke, we lacked any scientific evidence linking smoking with heart disease, lung cancer,

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		If parents would explain why they answered the question in the way they did, the class could compile results of the probe and probably develop quite a convincing list of reasons why smoking is undesirable.	etc. This presents an excellent opportunity to illustrate the difficulty one has in "breaking" a well-established habit.
3. The Expense of Smoking		Compute the annual cost of smoking one pack of cigarettes per day.	One insurance company has declared a 5% premium reduction for the nonsmoker. Other companies are also considering this move.
4. The Smoking Habit May Last Your Entire Lifetime	The decision to smoke or not to smoke should be based upon an intelligent interpretation of facts and not upon peer pressure or a personal desire to appear "grown-up."	Have students survey the community to determine where No Smoking signs are posted. Discuss reasons why smoking is prohibited in these areas.	
5. Safety Implications of Smoking		Invite a representative of your local fire department to discuss the topic--"Smoking as a Cause of Fires."	The two leading causes of fires in the home are careless smoking habits and children playing with matches. The National Board of Fire Underwriters reports that 25% of the fires reported to them are caused by these two hazards.
		Arrange for a forester to visit your class to speak about forest fires.	Tobacco amblyopia (dimness of vision) is common among smokers. Pipe and cigar smokers especially complain of difficulty during night driving. The implications for traffic safety are clear.
			The loss of wildlife and forests due to carelessly discarded cigarettes, cigars, and pipe ash, is very great.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
6. Attitudes of Parents and Other Family Members	A young person who is largely dependent on his parents for food, shelter, and other life necessities, should consider the attitudes of his family before starting to smoke.	Arrange for student panels to discuss the topic: "To what extent should parents make decisions for me?"	
7. Uniqueness of the Individual	Each individual is unique and therefore each of us arrives at our decision about smoking a different way.	Have students prepare a brief essay describing their personal reasons for making a decision about smoking.	Approximately two-thirds of our adult women do not smoke. More than one-third of adult men do not smoke.
8. Making the Right Decisions	The disadvantages of smoking far outweigh any "advantages" one might imagine.	Ask students to fold a piece of notebook paper in half. On one portion have them write "The Advantages of Smoking." On the other portion of the paper have your students list "The Disadvantages of Smoking." Ask each student to proceed to list all of the advantages and disadvantages he can think of. The teacher may combine the results and later discuss the many disadvantages of smoking as compared to the few (if any) advantages.	
1. A Mature Decision Based on a Clear Understanding of Tobacco and its Use	Whether the individual starts to smoke or not, the decision is ultimately a personal one. The disadvantages of smoking are overwhelming.	FS #3; SR #3	Motivational research has demonstrated that in developing human behavior patterns it is desirable to involve the student in the process of decision-making. An objective evaluation of smoking should result in the conclusion that smoking is undesirable.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. The Extent to Which a Person is "Grown Up" is Not Measured by His Decision to Smoke	One does not have to smoke to act grown up. The ability to make an individual, personal decision not to smoke in spite of the opinions and practices of friends and acquaintances is an evidence of maturity.	Divide the class into small groups of no more than five members each. Students select a leader for their group. Each group may discuss the topic, "What Makes a Person Truly Grown Up?" After 12 to 15 minutes of discussion reassemble the class and have each leader report on the discussion of his group. Encourage general class discussion to determine those qualities which seem to characterize the mature person.	
II. Man's Use of Tobacco	Man has used tobacco for several centuries.		
A. Early Use of Tobacco (1492-1600)			
1. American Indians	Europeans learned about tobacco when they explored the New World.		
2. Canadian Indians			Records from Cartier's exploration indicate that Canadian Indians cultivated tobacco and smoked it in pipes.
3. Natives of Mexico and Central America	There is some historical evidence suggesting that the Aztecs and Mayans developed the first cigarettes.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
4. Europe (Middle 1500's)	Early users of tobacco were not aware of the consequences of smoking.		
B. The Middle Period (1600-1800)			
1. English Colonies in America	The colonists found that tobacco was a popular trade item and it became a major industry before 1700.	FS #1	
C. Recent History (1800-Present)			
1. Expansion of the Industry	The introduction of cigarette-making machines was an important factor in the expansion of the tobacco industry.		
2. Increased Use of Cigars and Cigarettes			
3. Era of Tobacco Reform (1895-1921)	Efforts to control the use of tobacco were evident in the latter 19th century.		
a. Many States Banned the Sale of Cigarettes			
b. Legal Measures Had No Lasting Influence	As with the prohibition of alcoholic beverages, public sentiment overwhelmed the attempts to ban cigarette sales.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
6. The Modern Tobacco Era	Tobacco production and distribution has become a very important segment of our national economy.		Today, Americans are spending approximately $8,000,000,000 annually on tobacco products.
a. The United States Is a World Leader in Tobacco:		F #6	
1) Production			
2) Exportation			During the 1960's the annual exports from the United States averaged between 20 and 25 billion cigarettes.
3) Consumption			The Federal Governments' tax on cigarettes (8¢ per pack) produces nearly 2 billion 70 million dollars per year. The states realized an additional 1 billion 200 million dollars from their tobacco taxes. New York City levies an additional 4¢ tax per pack and this measure produced 41 million dollars in 1964.
b. Certain of Our States Base a Large Portion of Their Economy on Tobacco Industry			
III. Tobacco and Health			
A. Causes for Concern in Recent Years		Use overhead projector with overlay to compare the death rates from cardiorespiratory disease in 1930 with the present rates.	Researches cited in the Surgeon General's Report indicate that the incidence of coronary heart disease is two to three times higher in smokers than in nonsmokers.
1. Increase in Heart Disease	The incidence of heart disease, lung cancer, and other respiratory diseases has increased rapidly since 1900.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. More Deaths Due to Lung Cancer	The incidence of lung cancer is increasing more rapidly than any other form of cancer and its increase parallels the increased consumption of cigarettes in the United States.	Compare the increased rates of lung cancer, heart disease, etc., with the increased per capita consumption of tobacco. The students should be encouraged to note relationships between increased tobacco sales and the corresponding increase in lung cancer.	Lung cancer is now the leading cause of cancer death among men. The lung cancer rate has increased ten times over what it was 30 years ago.
3. Shortened Life Expectancy of Smokers			While the per capita consumption of cigarettes (persons 15 years and older) has increased approximately 30 times since 1900, there is a marked decline in the consumption of cigars and pipe tobacco.
B. Increased Tobacco Use in the United States			
1. Per Capita Cigarette Consumption Increased Since 1900	Present trends of increased cigarette smoking by women suggest that in the future, the incidence of lung cancer among women will approach that of men.	Invite the school physician or school nurse-teacher to speak to your class about the increase in lung cancer, heart disease, and other illnesses associated with smoking. FS #5; SR #1	An increasing proportion of women are smoking today than in past years. Research completed in February 1966 has shown that increased lung cancer and coronary heart disease rates have been demonstrated in female smokers. In 1916, the American public smoked 25 billion cigarettes. By 1963 the figure had risen to 524 billion cigarettes.
2. Corresponding Increase in Incidence of Lung Cancer and Other Cardio-respiratory Illnesses		Students develop exhibits for your school health or science fair.	It is estimated that a male smoker who has smoked for 20 years loses on the average about 5 years of life expectancy.
3. Consumption of Pipe Tobacco and Cigars Has Decreased.			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
4. Smoking by Teenagers Has Increased	The reasons why young people begin to smoke are evidence that they are unaware of the hazards of smoking.	Students might suggest various reasons why young people begin to smoke. Arrange these reasons on questionnaires and request that those who smoke check the reasons why they began smoking. Distribute to students in grades 7, 8, and 9. Tabulate results.	
C. Surgeon General's Report	Until recent years, our knowledge of tobacco's effects on the body has been shrouded in myth, superstition, and lack of knowledge.		Foremost among the studies which have linked cigarette smoking with lung cancer, is the Report to the Surgeon General. It is recommended that the teacher refer to this report for additional information.
1. Report Made in 1964	The Surgeon General's Report on Smoking and its conclusions have been accepted by the medical profession and other professional groups.		
2. Research Findings:			
a. Cigarette Smoking Is a Cause of Lung Cancer	Overwhelming evidence has been compiled which indicts cigarette smoking as a cause of lung cancer.	Discuss the nature of malignant growth, emphasizing the low survival rate from lung cancer.	Lung cancer rates have increased ten times in the past 30 years. Lung cancer now kills over 41,000 Americans annually, and we can expect the number to increase.
b. The Incidence of Heart Disease is Higher Among Smokers Than Nonsmokers		Display the American Cancer Society exhibit - a wheelbarrow of cigarette butts and a jar of "tar." Perhaps your students can create equally effective displays.	The lung cancer rate is approximately 20 times lower among the nonsmokers. Lung cancer is a largely preventable disease; it is estimated that 75% of lung cancer is caused by smoking.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Other Respiratory Diseases Are More Common Among Smokers			
3. People Who Have Never Smoked Are Least Apt to Die From Lung Cancer	The surest way to protect oneself from premature death from lung cancer is to refrain from smoking.	F #8 Plan a socio-drama to review the evidence indicting cigarette smoking as a cause of lung cancer.	The percentage of American men aged 35 who may expect to die before the usual retirement age of 65 has been calculated as follows: -- nonsmokers ..... 23% -- cigar and pipe smokers .. 25% -- cigarettes less than one-half pack a day ..... 27% -- one-half to one pack .... 34% -- one to two packs per day ..... 38% -- two or more packs per day 41%
D. Tobacco and Youth			
1. Effects on the Respiratory System	The use of tobacco leads to "breathlessness" in the smoker.	Suggest that students ask smoking parents whether smoking has an effect on one's breathing and appetite.	One characteristic of smokers is their shortness of breath, due to congestion of the breathing passages by smoke.
a. Interferes With Normal Breathing	Smoking is likely to reduce a person's ability to participate effectively in physical activities.	Display set of "I Don't Smoke" posters featuring outstanding athletes. These posters are available from the American Cancer Society.	
b. Athletes Are Instructed Not to Smoke	Professional athletes who smoke generally have superior ability which would probably improve if they didn't smoke.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Tendency Toward More Frequent Colds of Longer Duration	Retardation of ciliary action may aggravate cold symptoms.		The susceptibility that many smokers appear to have toward the common cold is probably due to the fact that tobacco smoke interferes with the proper functioning of our protective mucus lining in the nose and throat. How smoking interferes with normal breathing: Tobacco smoke decreases the motility work-effectiveness of the cilia (hair-like structures on the walls of the respiratory system) hence an increased tendency to accumulate impurities that would normally be "moved out" by the cilia. There is a reduction of ventilary function among smokers when compared with nonsmokers--Surgeon General's Report-1964-Page 302.
2. Effects on the Digestive System		F #1	
a. Smoking Tends to Reduce One's Appetite	During the growing years, smoking interferes with one's normal growth because of the depressing effect of tobacco on the appetite.		Although smoking does not stunt one's growth, any substance which acts as an appetite depressant would influence the intake of nutrients essential for normal growth and development.
b. Interferes with the Ability to Taste and Enjoy Food			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
B. Effects on Heart a. Smoking Increases Heart Rate		Suggest that students record the pulse rates of their smoking family members (while sitting) before and after smoking a cigarette. Graphs can be developed to record the variations in rates. Compare findings in class. A student committee might prepare a bulletin board on "Smoking and Fitness."	It is not uncommon immediately after a cigarette has been smoked that the individual's heart rate would increase by 20 beats per minute. This may last for as long as twenty minutes after the smoking has ceased. This increase results from a stimulation of sympathetic ganglia. Both systolic and diastolic blood pressure are increased. Flow of blood in the peripheral blood vessels is decreased, causing the temperature to drop slightly in the fingers and toes.
1) Disadvantages to the Athlete			
2) Affects Efficiency of Body Muscles			
C. Growth and Development a. Decreases the Desire for Food	For maximal growth, development, and performance, one should avoid the use of tobacco.	A member of the class might write to Roswell Park Memorial Institute, Buffalo 3, New York, and request a set of posters on smoking and health. These may be displayed in a prominent location in your school.	
b. Deprives Body of Fresh Air Necessary for the Growth of Tissue			Smoking causes an increased secretion of digestive fluids and a slowing down of the digestive process. The result is a decrease in appetite. Smoking deadens the sense of taste. Decrease in the appetite results.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Smoking increases heart rate (pulse) and contracts blood vessels. The heart must do added work to increase blood flow by increasing rate and pressure.
IV. Deciding About Smoking	A wise decision is based upon factual information and mature judgment.		Alleged rewards of smoking include: Improvement of the self-image, feeling of independence, release of tension due to: insecurity, frustration, restlessness, oral gratification, and the dulling of sensitivity.
			Risks of smoking include: Physiological habituation, and possible acquisition of coronary heart disease, cancer, emphysema, bronchitis, and other diseases.
			Immediate effects of smoking are "tobacco breath," staining fingers, and cough due to dryness of mouth and throat.
			Smoking also increases the possibility of fire and incidental damages to clothing and furnishings.

V

SUPPLEMENTARY INFORMATION FOR TEACHERS

It is not clear exactly how tobacco was introduced in Europe. However, it was used mainly as a medicine until 1600. This "medical discovery" was first hailed in Portugal, where tobacco was recommended in poultices, unguents, and as cathartics and dentifrices. Even in the latter 17th century, it was used to ward off plague and to cure cancer.

The smoking habit was greatly encouraged in England when Sir Francis Drake returned to England in 1586 with quantities of tobacco captured in the West Indies. He returned with leaves, seed, and clay pipes. From this day on, pipes have been used widely in England and other parts of Europe.

Sir Walter Raleigh was one of the first to take up the smoking habit and he was largely responsible for making smoking "respectable" in Elizabethan court circles. The smoking habit disgusted many Englishmen, but the young men of London soon learned the habit, and history tells us, practiced the revolting practices aptly called the Gulpe and the Retention.

Snuff is a powdered form of tobacco which is chewed, rubbed on the gums and teeth, and inhaled through the nose. Snuff taking was introduced in Europe from America during the 16th century and was popular until the end of the 1800's.

The major mode of tobacco consumption during the Colonial Period was pipe smoking.

The Jamestown cultivations were developed by John Rolfe, who grew tobacco from seed sent to him from either South America or the West Indies.

England believed that tobacco was harmful and prevented the colonists from growing food crops. The colonists, however, maintained that tobacco was their major staple and a medium of exchange.

During the Revolutionary Period the cigar was introduced to the colonies by General Israel Putnam.

Cigarette smoking was relatively rare in the U.S. until the close of the Civil War.

The chief method of tobacco consumption during the first half of the 19th century was chewing. It became a prideful departure from the accepted European patterns of consumption. Tobacco chewing became a distinctly American custom. It had originally been a habit of seamen and common workers.

In all American wars, three factors appear to have increased the extent of tobacco use:

1) removal of family restrictions
2) indulgence in tobacco as an escape from the rigors of military life
3) the phenomena of "imitated behavior" when people are grouped together

The increased use of cigarettes led to the imposition of a cigarette tax in 1864.

During this period, 14 states banned the sale of tobacco, largely through the efforts of temperance groups.

By 1930, all prohibitory regulations had been repealed. This led to the doubling of cigarette sales by 1930.

The majority of tobacco reformers believed that tobacco use was physically and mentally harmful and that it undermined one's moral life.

SMOKING AND HEALTH

STUDENT REFERENCES (GRADES 4-12)*

Pamphlets

American Cancer Society (local unit)

1. *Answering the most-often-asked questions about cigarette smoking.*
2. *I'll choose the high road.*
3. *Shall I smoke?*
4. *To smoke or not to smoke.*
5. *Where there's smoke.*
6. *Your health and cigarettes.*

New York State Tuberculosis and Respiratory Disease Association, Inc.

7. *Here is the evidence - you be the judge.*

Public Affairs Committee

8. *Cigarettes and health.* Public Affairs Pamphlet No. 220A. New York. 1962.
9. *Emphysema - why the breath of life falters.* Public Affairs Pamphlet No. 326. New York.
10. *Smoking - the great dilemma.* Public Affairs Pamphlet No. 361. New York.

U.S. Department of Health, Education and Welfare

11. *Facts for teen-agers, - smoking, health, and you.* Children's Bureau Publication No. 424-1964. Washington. 1966.
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16. *Athletes in smoke switch.* Senior Scholastic. November 22, 1963.

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U.S. Department of Health, Education and Welfare. Washington. *A quick reference guide to the report: smoking and health.* Report of the Advisory Committee to the Surgeon General of the Public Health Service. PHS Bulletin No. 1103-E. 1965.

____ *Tobacco consumption in the United States, 1880-1955.* By Milmore, B.K., & Conover, A.G. Addendum Public Health, Monograph No. 45. 1956.

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Teachers Guide

The high cost of smoking. New York State Department of Health. 1966.

SMOKING AND HEALTH

SUGGESTED AUDIO-VISUAL AIDS

Filmstrips

1. Life in Jamestown. Curriculum Materials Corporation, 1319 Vine Street, Philadelphia 7, Pennsylvania.

2. Nature's Filter. American Temperance Society, 6840 Eastern Avenue, N.W., Washington 12, D. C.

3. What About Smoking. (with 33 1/3 record). Family Films, Inc., 5823 Santa Monica Boulevard, Hollywood 38, California.

4. I'll Choose the High Road. American Cancer Society, New York State Division, 40 Franklin Street, Rochester, New York 14604. (Local ACS unit.)

5. To Smoke or Not to Smoke. American Cancer Society, New York State Division, 40 Franklin Street, Rochester, New York 14604. (Local ACS unit.)

Films

1. Alcohol and Tobacco: What They Do to Our Bodies. Coronet Films, 16 minutes, black and white.

2. Is Smoking Worth It? American Cancer Society, 19 minutes, black and white.

3. Tobacco Valley. Shade Tobacco Company, River Street, Windsor, Connecticut 06095, 27 minutes.

4. Backbreaking Leaf. Syracuse University Film Library, 30 minutes.

5. Cigarama. Sterling Movies, 375 Park Avenue, New York 22, New York, 12 minutes, black and white.

6. Point of View. New York State Tuberculosis and Respiratory Disease Association, 105 East 22nd Street, New York, New York 10010. (Inquire of local unit.)

7. The Huffless Puffless Dragon. New York State Tuberculosis and Respiratory Disease Association, 105 East 22nd Street, New York, New York 10010, 9 minutes, color. (Inquire of local unit.)

8. Breaking the Habit. American Cancer Society, 6 minutes, color.

Films (Cont'd)

9. Smoking and Lung Cancer. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 29 minutes, black and white.

10. Smoking and You. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 11 minutes, color.

11. Smoking Anyone. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 25 minutes, color.

12. Tobacco and the Human Body. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 15 minutes, black and white.

13. Who Me. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 14 minutes, color.

SMOKING AND HEALTH

SOURCES OF ADDITIONAL MATERIALS AND INFORMATION

American Cancer Society, New York State Division (or local unit), 1010 James Street, Syracuse, New York 13202

National Clearing House of Smoking and Health, 4040 N. Fairfax Drive, Arlington, Virginia 12203

New York State Committee on Hazards of Smoking, (an interagency committee), Miss Dolores Floss, Coordinator; c/o New York State Department of Health, 855 Central Avenue, Albany, New York 12206

New York State Health Department, James J. Quinliven, M.D., Director of Public Health Education, Albany, New York 12208

____ Miss Dorothy Nelson, Program Director - Smoking Education, 855 Central Avenue, Albany, New York 12206

____ Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York

New York State Heart Assembly, Inc., 3 West 29th Street, New York, New York

New York State Tuberculosis and Respiratory Disease Association, Inc., 105 East 22nd Street, New York New York 10010

U. S. Children's Bureau, Division of Reports, Washington, D. C. 20201

U. S. Public Health Service, Office of Information and Publication, Public Inquiries Branch, Washington, D. C. 20201

EDO 43064

PROTOTYPE
CURRICULUM MATERIALS
FOR THE ELEMENTARY
AND SECONDARY GRADES

HEALTH

GRADES 7,8,9

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STRAND II SOCIOLOGICAL HEALTH PROBLEMS

A. ALCOHOL

B. DRUGS and NARCOTICS

C. SMOKING

BB 005 854

THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTMENT
THE CURRICULUM DEVELOPMENT CENTER/ALBANY, NEW YORK 12224

HEALTH CURRICULUM MATERIALS

FOR GRADES 7,8,9

Strand II, Sociological Health Problems
Alcohol
Drugs
Smoking

1970 Reprint

The University of the State of New York/The State Education Department
Curriculum Development Center/Albany 12224
1967

THE UNIVERSITY OF THE STATE OF NEW YORK

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Chief, Bureau of School Health Education
John S. Sinacore

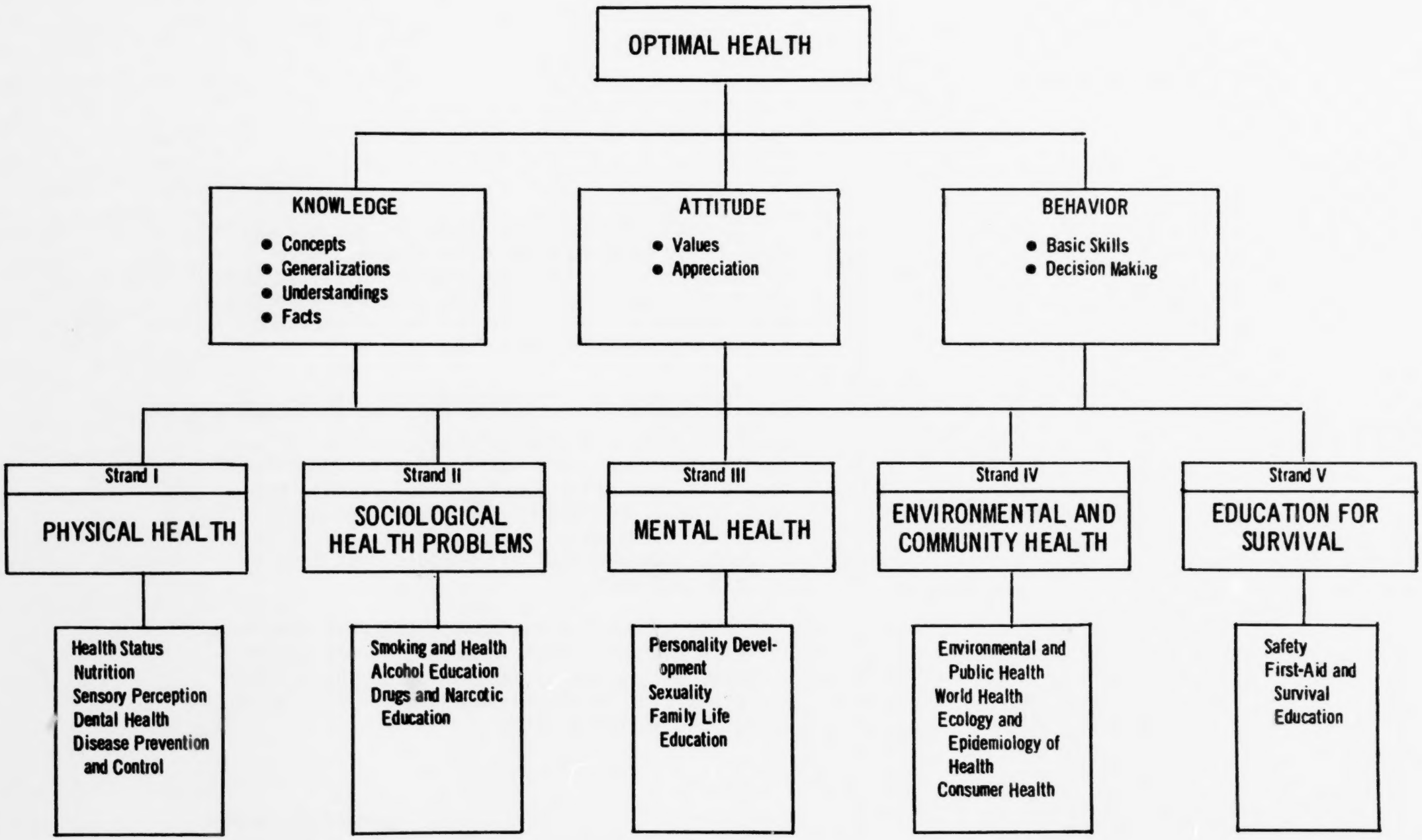
Prefatory Note

The ever increasing problems in our society that are related to drug abuse demand a more effective health education program in all schools. Continuing sociological health problems associated with cigarette smoking and the use of beverage alcohol also require attention.

These materials — developed for Strand II, Sociological Health Problems, for use in Grades 7,8 and 9 — contain appropriate suggestions for designing teaching units for the health education course at this grade level. Local schools may need to make adaptations to provide for acute problems, especially in drug education. It is evident, however, that all schools must face up to this challenge.

It is hoped that the health concepts developed in these new curriculum materials in the health sciences will prove of real value to the children and parents of our local school districts, to the state, and to the nation.

Bernard F. Haake
Assistant Commissioner for Instructional Services
(General Education)


OPTIMAL HEALTH
KNOWLEDGE
• Concepts
• Generalizations
• Understandings
• Facts
ATTITUDE
• Values
• Appreciation
BEHAVIOR
• Basic Skills
• Decision Making
Strand I
PHYSICAL HEALTH
Strand II
SOCIOLOGICAL HEALTH PROBLEMS
Strand III
MENTAL HEALTH
Strand IV
ENVIRONMENTAL AND COMMUNITY HEALTH
Strand V
EDUCATION FOR SURVIVAL
Health Status
Nutrition
Sensory Perception
Dental Health
Disease Prevention and Control
Smoking and Health
Alcohol Education
Drugs and Narcotic Education
Personality Development
Sexuality
Family Life Education
Environmental and Public Health
World Health
Ecology and Epidemiology of Health
Consumer Health
Safety
First-Aid and Survival Education

FOREWORD

This publication contains three of the topics for Strand II, Sociological Health Problems, which have been prepared as part of the K-12 health syllabus revision project. The material included herein is intended for use in grades 10, 11, and 12. Similar publications are available for these same three areas — alcohol education, drugs and narcotics, and smoking — for use in grades 4, 5, and 6 and in grades 7, 8, and 9. The health coordinator in a school system should make use of all three publications in planning a local K-12 program. Other materials to complete this strand and for the other strands shown in the chart on page iv are in various stages of planning or development and will be distributed as they are completed.

The curriculum materials presented in this prototype strand have been prepared in response to an increased public interest in the health sciences. Problems of air and water contamination, the misuse of drugs, the habituation tendencies of alcohol and tobacco, and the diet fad inspired use of food adulterants, have led knowledgeable people to demand increased health instruction in the schools of New York State.

The development of these curriculum materials as part of a K-12 program should lead to a well articulated educational program in health. The format also makes it possible for full time health teachers, physical education teachers, science teachers, broad spectrum elementary teachers, school nurse teachers, and dental hygiene teachers to adapt special areas to their own programs.

The first drafts of the manuscripts for the three parts of this strand were written by a team at the State University College at Cortland under the leadership of Dr. John S. Sinacore, Professor of Health Education. Dr. Sinacore prepared the section on drugs and narcotics; Lawrence B. O'Reilly, Assistant Professor of Health Education, wrote the section on smoking; and Leonard T. Gath, Associate Professor of Health Education, wrote the section on alcohol. Eugene V. Bowers, Professor of Health Education, State University College at Brockport; Dr. James J. Quinlivan, Director, Office of Public Health Education and Miss Rita Pacheco, Supervising Public Health Educator, of the New York State Department of Health; John R. Butler, Director, Bureau of Alcoholism, and Mary M. Burgess, Supervisor of Alcohol Education, New York State Department of Mental Hygiene; reviewed the manuscript and made valuable suggestions.

John L. House, formerly Assistant in Health Education, coordinated the writing-editing efforts and established the developmental pattern in association with James A. Howarth, Associate in Elementary Curriculum, and Robert F. Zimmerman, Associate in Secondary Curriculum.

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INTRODUCTION

Optimal health is dependent upon the interaction of knowledge, attitude, and behavior. The content of this health curriculum guide has been established as a five-strand approach to the concepts, generalizations, understandings, and facts; the values and applications; the basic skills; and the decision-making processes that are the keys to good health. The five-strand approach provides maximum flexibility for program development in the schools, and makes it possible to utilize the services of writer-consultants who are experts in their fields.

At the elementary school level, pupils should experience basic instruction in each of the major strands prior to the completion of the 6th grade. Elementary school health education experiences have been traditionally based upon the concept of sequential organization of the total spectrum of the health curriculum content in each grade with a gradual increase of the depth and scope of instruction as the pupil progresses through the grades.

The depth exploration of specific health areas by grade does not minimize the need to develop information from related health topics as a reinforcement to developing knowledges and concepts. The teacher will probably find that health problems which arise will require the addition of health information from related areas.

At the junior high school level individual strands might be developed in depth or a combination of strands may be developed in accord with local conditions and the developmental needs or special interests of the pupils.

A general health education course based upon content from all of the strands could constitute the initial senior high school pupil health education experience. Following this generalized overview, special interest depth studies of specific strands on an elective basis might be developed to meet specific student interests.

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A L C O H O L E D U C A T I O N

An Experimental Unit for Grades 7,8,9

INTRODUCTION TO ALCOHOL EDUCATION

Grades 7, 8, 9

This unit on alcohol education is intended to provide junior high school students with unbiased information and provide them with an opportunity to discuss the use and abuse of alcoholic beverages in the light of current knowledge and understanding.

Teachers at this age level are aware that youngsters differ greatly in emotional maturity, and it is imperative that the lesson material be adapted to the needs of individual students.

Students in grades 7, 8, and 9 are undergoing physiological and mental maturation, and are striving for identification with their peer groups and adult society. They have a need to conform and may be pressured into precocious social actions in their attempt to function as adults.

It is the teacher's responsibility to:

1. help the children understand the emotional, social, and physiological effects of beverage alcohol.

2. stimulate discussion which will promote understanding attitudes toward problems of alcohol misuse.

3. help students understand that both satisfactions and problems are derived through the use of alcohol.

4. help students understand the need for economic and legislative controls on the use of beverage alcohol.

5. help students recognize and understand that there are cultural differences in drinking patterns which may create conflicts of opinion.

ALCOHOL EDUCATION

(Teaching Units for Grades Four through Twelve)

INTERMEDIATE GRADES (grades 4, 5, & 6)

I. The Nature of Alcohol

II. The Use of Alcohol in the Early Days in America

III. Alcohol in the Human Body

IV. Elimination

V. Alcohol and Problems

VI. Alcohol and the Family

JUNIOR HIGH SCHOOL (grades 7, 8, & 9)

I. The Adolescent and Beverage Alcohol

II. The Use of Alcoholic Beverages in the United States

III. The Social Problems Associated with Beverage Alcohol

IV. Legislative Control and Economics of Alcohol

SENIOR HIGH SCHOOL (grades 10, 11, & 12)

I. Alcohol and Mental Health

II. Physiological Effects of Alcohol

III. The Psychological Effects of Alcohol

IV. Alcoholism - A Medical Problem.

V. Other Disease Forms Associated with Alcoholism

VI. Rehabilitation and Treatment

VII. Research Agencies and Prevention of Alcoholism

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. The Adolescent and Beverage Alcohol	Alcoholic beverage consumption may provide an excuse for, or cause of, unacceptable adolescent behavior.		The use of alcohol may create problems, not solve them.
	There is no alcoholic type. A sensitivity to alcohol isn't passed on from parents to children.	A teacher developed True-False test on the use and misuse of alcohol will point	The drinking process is voluntary, and therefore normally controlled by the will.
A. Why Teen-agers Drink	Teen-agers tend to imitate adult behavior.	Have a panel discussion on: "What will make me more popular--alcohol or no alcohol?" or "Will I reach my lifetime ambition if I start drinking?"	Stress the many advantages of not drinking.
1. Curiosity			There is no specific benefit to be derived from the internal use of alcohol.
	Drinking modifies inhibitions and self-restraint.		Teen-agers learn about drinking from watching adults.
	Adolescents view drinking as "adult" behavior.	Do professional and college athletes drink alcoholic beverages? Discuss this with the class.	Cultural background, drinking in the home, community attitude toward drinking, religious background, ethnic groups, socio-economic class all influence drinking by teenagers.
	Drinking provides a false sense of resolution.	Film: It's Best to Know	
2. Peer Pressure	Teen-agers may resort to drinking as a way of meeting the unhappiness of failure.	Hold class discussion on "Why people drink and the reasons for not drinking."	Adolescents drink because they want to: 1. satisfy their curiosity 2. go along with the crowd, show off 3. develop courage to conquer shyness 4. quell feeling of inferiority 5. rebel against authority 6. seek adult status
3. Adventure	Most teen-agers are unaware of the unpleasant consequences drinking can cause.		
4. Imitation of Adults			
5. Unaware of Dangers			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
B. Why teen-agers do not drink		Film: Should You Drink?	Adolescents do not drink because of: 1. preference 2. parental attitudes toward drinking 3. personal conviction 4. the unpleasant taste of alcohol 5. religouus conviction 6. social evils 7. a preference for driving rather than drinking 8. a desire for good health 9. a preference to avoid excesses
1. personal reasons 2. religious training 3. parents deny them the privilege	Many teen-agers associate drinking with non-virtuous acts. Alcohol is classified as a narcotic drug.		
C. The problems of teen-age drinking	Drunkeness may be due to drinking too much, but this is the secondary cause. The primary cause may be highly complex.	Why do you think alcohol may affect a teen-ager more than an adult?	
1. the "now" problem - intoxication			
2. the "later" problem - alcoholism	Alcoholism is considered a disease - a result of emotional stresses. Adolescent drinkers with emotional conflicts are potential alcoholics.	Pamphlet study: "It's Best To Know About Alcohol."	The problem of adolescent drinking is intoxication not alcoholism. Drinking by teen-agers may cause traffic accidents and other serious involvements. Alcohol affects teen-agers more because of body weight -- they are often smaller, so alcohol is in higher concentration in their bodies.
D. Effects of alcohol	Alcoholic beverages inhibit muscular coordination and judgment.	Film: Alcohol in the Human Body. Have students look up research studies in the library and report on the effects of alcohol on muscular coordination (Drunkometer tests).	Effects of alcohol on the person are: silly actions, weak will, poor memory, foolish talk, erratic muscular activity, and stupor.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
II. The Use of Alcohol in the United States	The use of beverage alcohol is widespread in America.		Studies show: 65% of the adult population are users of beverage alcohol. In total per capita consumption of beverage alcohol, USA ranks 8th in the world. France, Italy, Switzerland, Australia, West Germany, Belgium, New Zealand all consume more per capita. Americans spend 10 to 11 billion dollars a year on alcoholic beverages. 75% of the men drink alcoholic beverages as compared to 56% of the women. Most drinkers are in the 29-40 age group.
	People in this country are free to make their own choice with regard to the use of alcohol.		One poll shows a sharp increase in the number of women drinking. This may be due to greater economic welfare, greater freedom, more association with men in business and recreation.
A. Culture Variables	There are many varying points of view on the use and misuse of alcohol in the U.S.	Discuss the main groups and subgroups that make up our society. Do they all think alike? Do they think differently about alcoholic beverages?	Varying views on the use of alcohol: 1. Some families say beer and wine are all right, but liquor is bad. 2. Advertising glamorizes the use of alcohol.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			3. Some families drink beer and wine at meals, and others would not have these beverages in the house.
		Analyze TV and radio commercials for alcoholic beverage advertising. Discuss these in class.	4. One view: "If I drink, my character will be damaged." The other view: "Alcohol is not bad and will not affect my character."
			5. Differences exist on the permissible age of drinking.
		Panel discussion after research on a specific topic such as: "What are the dangers of drinking?"	6. Communities differ on the use of alcohol.
			7. In our culture some male teenagers think they have to prove their manliness by drinking.
III. The Social Problems Associated With Beverage Alcohol		Vocabulary Study: Define: problem drinker, abstainer, social drinker, drunkenness (inebriety), acute alcoholism, alcohol poisoning.	TV stresses good life with alcohol. Stress that abstinence and moderate drinking are accepted social customs.
A. Industry	Excessive use of alcohol may affect the ability to hold a job.	Interview a social welfare department representative to seek a relationship between alcohol and people on public assistance who cannot retain a job.	Alcohol may aggravate a social problem and lead to occupational dismissal. Efficiency declines with alcohol in the blood stream.
		Filmstrip: Alcohol and Social Problems (80 frames)	
	Accident rates increase when workers have been drinking.		Commercial airline pilots must abstain from alcoholic drinks for at least 24 hours before flying.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Some industrial concerns have alcoholism rehabilitation programs for employees. How does alcohol affect the worker on the job?	Industry is assisting with the rehabilitation of problem drinkers. Du Pont, Bell Telephone, Eastman Kodak, Consolidated Edison of N.Y. are operating effective programs.
B. Driving and Alcohol	Alcohol affects driving ability. Small amounts of alcohol decrease a person's ability to concentrate. Hearing, sight, and touch are impaired by alcohol. Muscular control and efficiency decrease with alcohol intake and reaction time is increased.	Filmstrip: Drinking, Drugs, Driving, 30 F, McGraw-Hill Film: To Your Health Collect newspaper clippings for class use on accidents involving alcohol. Have State police speak to class and demonstrate chemical test for intoxication.	The social drinker who will not admit that his inhibitions, co-ordination, and judgment are impaired may have many accidents. Alcohol has a sedative effect and is responsible for many accidents. Failure of a N.Y. State motorist to submit to an alcohol breath test can result in revocation of driver's license.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Discuss statistics and charts on accidents due to driving under the influence of alcoholic beverages. Are young people involved in these accidents? What percentage?	Blood alcohol levels of 0.04% are definitely associated with increased accident involvement. The probability of an accident increases rapidly from 0.08% to an extremely high rate above 0.15%. Drivers with blood alcohol levels over 0.08% have more single accidents, more severe accidents, and more expensive accidents.
		Write to the Motor Vehicle Bureau for information on alcohol and driving proficiency.	Any degree of alcohol will affect clearness of intellect and control.
		Film: None for the Road	Blood alcohol concentration below .05 percent; adult person is not under the influence of alcohol. Blood alcohol levels between .05% and .15% is admissible evidence. (National Safety Council). In New York State, drivers under 21 with 0.01 percent (and above) of alcohol in blood can lose their licenses to drive.
	The chemical test for intoxication is reliable and legal.		Chemical test methods can be obtained from blood, urine, saliva, breath. Breath tests are of alveolar air -- chemical analyses can be obtained in 10 minutes.
C. Alcohol and Crime	Crime may be an outcome of alcohol misuse.	Survey newspapers and note the disposition of cases where a person has committed a crime under the influence of alcohol.	Seventy-five percent of police time is spent handling problem drinkers.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Excessive drinkers commit crimes against people rather than property. More alcoholics and excessive drinkers get in trouble with the law than do moderate drinkers. A large percentage of persons imprisoned for serious crimes have had a history of excessive drinking.
		Invite a social worker to discuss the relationship of alcohol to various societal problems.	Criminologists agree that excessive drinking is not the prime cause of crime.
IV. Legislative Control and Economics of Alcohol	There are federal and state laws controlling alcohol transportation and use.	Library assignment to gather laws, resolutions on drinking, for a class discussion.	The Prohibition Movement in the U.S. was against the manufacture, sale, or transportation of alcoholic beverages. The Sons of Temperance was organized in New York City in 1842; Independent Order of Good Templars in 1850; National Prohibition Party in 1870; WCTU and Anti-Saloon League were most highly organized and influential --tried to lobby for prohibition. Anti-Saloon League is credited with passage of the 18th Amendment.
A. National Legislation	Many counties, cities, and states as well as the nation, passed prohibition laws.	Develop a panel discussion: Topic--Prohibition Did Not Work in the U.S. Because...	Fourteen states passed prohibition laws, starting with Maine in 1851. They all were declared unconstitutional except Maine's.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Due to the influence of prohibitionists many localities began to "go dry."
		Research: What are some specific regulations related to drinking in New York State?	In 1913 Congress passed the Webb-Kenyon Law. This law made it illegal to ship liquor from a wet to a dry state. In 1917 the Jones-Randall Bill passed. The mails cannot be used to send liquor circulars to people in dry areas. Sept. 8, 1917 no liquor could be manufactured legally. May 1, 1919 no more beer manufactured legally. July 1, 1919 no more liquor sold, no saloons could operate legally.
B. Laws, Acts, and Amendments			18th Amendment was passed to make entire U.S. dry; to go into effect on January 16, 1920. In 1919 the Volstead Act carefully defined alcoholic drinks. National Prohibition 1920-1933. Evasion of the law was widespread. In 1933, F.D. Roosevelt ran for President and promised to repeal the 18th Amendment.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Look up the 18th Amendment and have a class discussion on why it was repealed by the 21st Amendment to the Constitution.	Repeal passed by 21st Amendment on Ratification by 36 states. Two systems of alcoholic beverage control by the states are now used: Open-license system as in New York State-operated stores in 17 states In 36 states, local optional exists
C. Taxation	The government may be trying to control the use of alcoholic beverages by taxation.	Send for and study the state regulations in New York State and neighboring states regarding controls on alcoholic beverages.	
		Study the tax laws pertaining to beer, wine, spirits.	The Federal government obtains over 3 billion dollars from taxation on beverage alcohol from excise taxes. States raise over 1 billion dollars from tax on alcohol. States use alcohol tax money in different ways. These might include the general fund, education, and the rehabilitation of alcoholics.
		Study in class: Facts About the Licensed Beverage Industry, and Moonshine, Money, Murder from F.B.I.	High taxes may account for some illegal liquor production.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			The tax on distilled spirits is $10.50 per proof gallon; beer, $9.00 per 31 gallon barrel; wine (14% alcohol or less), 17 cents per gallon; wine (14 to 21% alcohol), 67 cents per gallon; wine (21 to 24% alcohol), $2.25 per gallon; artifically carbonated wine, $2.40 per wine gallon. Champagne and other sparkling wines the tax is $3.40 per gallon.
	Taxation on alcoholic beverages provides revenue for Federal, State, and Local governments.	Discussion of: The Alcoholic Beverage Industry and the National Economy	Alcoholic beverage revenues in N.Y. have been used for general State purposes and for administration and enforcement of the Liquor Control Act. Some is returned to local governments. The alcoholic beverage industry has become a major source of tax revenue. Since repeal (1934-1964) $2,341,034,000 has been collected in local and state taxes in New York State. As a sample year 1964 $157,320,000 was collected as taxes on the liquor industry for local and state purposes. Local $29,666,215, and State $127,653,426. In 1964, 180,405 people were employed in this industry in New York State with a total payroll of $668,310,000.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
D. Minors and State Controls	There are legislative and administrative controls over liquor sold in the United States. These vary from state to state.		Every state has laws governing the sale of alcoholic beverages to minors. No uniformity in laws. In most states the legal drinking age is 21 years of age or older. In New York State it is 18 years of age or older. In South Carolina, Ohio, Kansas, West Virginia, beer may be bought at 18. In North Carolina a married person at 17 may buy alcohol but an unmarried person must be 21 or older. In Montana, alcohol may be purchased by an individual under 21 if prescribed by a doctor, or if it is to be used for sacramental purposes.
		Class discussion on the state laws and regulations concerning the sale of alcoholic beverages to minors.	Many states have laws against the sale of alcoholic beverages to known inebriates. Research is needed to determine whether the legal controls work.

Supplementary Information

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ALCOHOL EDUCATION

Suggested Audiovisual Aids

Films

Alcohol in the human body. Sid Davis Productions, 14 minutes, color.

Alcohol is dynamite. Sid Davis Productions, 11 minutes, black and white.

The alcoholic criminal. N.E.T. (Indiana University), 30 minutes.

Alcoholism. E. B. F. State Health Department, 22 minutes.

The bold faces the facts. WCTU, 1730 Chicago Avenue, Evanston, Illinois, 13 minutes.

The bottle and the throttle. Sid Davis Productions, 10 minutes, color.

The brain is the reason. WCTU, 1730 Chicago Avenue, Evanston, Illinois, 20 minutes.

Family affair. WCTU (Colorado University), 10 minutes.

Friendly enemy. WCTU (Colorado University), 20 minutes.

Highball highway. Charles Cahill Associtiion, 5746 Sunset Blvd., Hollywood, California, 12 minutes.

I am an alcoholic. McGraw-Hill (Brigham Young University), 17 minutes.

It's best to know. Onondaga Council on Alcoholism, Syracuse, New York, 8 minutes, black and white.

The mixer. M.R.A. Mutual Insurance Co., Columbia, Missouri, 10 minutes.

Nightmare of the bold. U. S. Air Force, 8900 Broadway, St. Louis, Missouri, 53 minutes.

None for the road. McGraw-Hill, 16 minutes, black and white.

Out of orbit. M-S-B-A Michigan State Board of Alcoholism, 14 minutes, color.

Problem drinkers. MGH - State Health Department, Film Library, 19 minutes.

Should you drink? McGraw-Hill - University of Illinois, 22 minutes, black and white.

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The silent witness. W.M.S. Merrill Co., Cincinnati, Ohio, 28 minutes.

To your health. N.Y.S. Department of Mental Hygiene, 10 minutes, color.

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The drinking driver. Part I. May 1964.
The drinking driver. Part II. June 1964.
Driving under the influence of alcohol and drugs. 1963.

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"Photos help alcoholics." Science Newsletter. February 20, 1965.

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"Problem drinking among American Indians." QJSOA. March 1966.

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D R U G S A N D N A R C O T I C S

An Experimental Unit for Grades 7,8,9

OVERVIEW

One of man's outstanding accomplishments in the twentieth century has been the discovery or development of many and varied drugs that help him to control disease, relieve its symptoms, and in others ways make life better.

There are now antibiotics and sulfanilamides to combat bacterial infections, diuretics to help the body get rid of excess fluids, tranquilizers and stimulants to affect mood, antihistamines to control allergic reactions, vaccines to prevent specific diseases, stimulants to stay awake, depressants to go to sleep, appetite depressants to control weight, vitamin tablets to improve nutrition ....pills, pills, pills.

With the mass media encouraging self-diagnosis and self-medication in a society oversupplied with easily accessible medication we have the **bases** for varied problems. They are accidental poisoning, death, unnecessary drug habituation, addiction, and general misuse of these substances.

It is perhaps time to pause and to learn about these chemicals that will become increasingly a part of our environment. It would be at best ironical if drugs initially designed to help man, instead, because of their abuse, were to sow the seeds of his destruction.

> The term "drug" means articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States, or official National Formulary, or any supplement to any of them; articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and articles (other than food) intended to affect the structure or any function of the body of man or other animals; and articles intended for use as a component of any article specified.

DRUGS AND NARCOTICS

(Teaching Units for Grades Four through Twelve)

INTERMEDIATE GRADES
(grades 4, 5, & 6)

I. Early Man's Use of Drugs

II. Modern Drugs and Their Contributions

III. The Use and Misuse of Drugs

JUNIOR HIGH SCHOOL
(grades 7, 8, & 9)

I. The Development of Modern Drugs

II. Prescription Drugs

III. Nonprescription Drugs (Over-the-Counter Drugs)

IV. Safeguarding Drugs and Their Use

V. The Historical Use of Drugs

VI. Habit-Forming and Addicting Drugs

SENIOR HIGH SCHOOL
(grades 10, 11, & 12)

I. Addiction and Habituation

II. The Narcotic Drugs

III. Marihuana

IV. Stimulants

V. Drug Traffic

VI. Legislation

VII. Rehabilitation of the Addict

O U T C O M E S

THE PUPIL IN JUNIOR HIGH SCHOOL SHOULD:

-- know the impact modern drugs have had in the control of disease as expressed in terms of increased life expectancy.

-- understand the nature of drugs and their reactions in human "chemical factories."

-- understand the nature of prescription drugs and the conditions under which they are sold and must be used.

-- understand the nature of nonprescription drugs and the pressures created by the mass media that lead people to self-medicative uses of these substances.

-- appreciate the role of the FDA in safeguarding the public by checking the safety, effectiveness, and proper labeling of drugs.

-- understand man's early use of drugs, their uses and abuses.

-- know the differences between habituation and addiction, and the drugs that lead to either.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. The Development of Modern Drugs			
A. Implications			
1. Incidence and the Control of Symptoms of Disease	Decreased incidence and greater control of disease have resulted from the development of more and better drugs.		Antibiotics and sulfa drugs have been effective in treating a wide variety of bacterial infections; e.g. blood poisoning, pneumonia, venereal disease, bone infections. Diuretics help the body to get rid of excess fluids to take the strain off the circulatory system.
		Report on a specific drug and indicate its health significance.	Tranquilizers have a quieting effect. Antidepressant drugs ("psychic energizers") are used to bring a person out of a depressed state. Antihistamines are used to control allergic reactions.
2. Mortality Rates	Due to the development of drugs, communicable diseases that were the leading causes of death fifty years ago no longer top the list. Since 1900 the overall mortality rate has dropped about 45%.	Compare lists of disease prevalence for 1900 with a current list.	In recent years death rates of many diseases have been drastically reduced by vaccines and by drugs: Poliomyelitis - 75% Acute Rheumatic Fever - 83% Syphilis - 89% Influenza - 90% Tuberculosis - 91% Measles - 94% Whooping Cough - 96% Diphtheria - 99%

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Life Expectancy	Life expectancy in 1900 was about 47, it is now about 70 years. Life expectancy at birth has been increased by 10 years since 1937.		It is estimated that more than 5 million Americans are alive today as a result of the changes in the mortality rate since 1937.
B. Expanded Use of Drugs	More than 90% of the prescriptions written today are for drugs that were nonexistent 25 years ago. Since 1951 drug sales have increased from 1 3/4 to about 6 billion dollars. About 800 - 900 drugs are extensively used in the United States.		
C. Their Nature	Some drugs come from plants (penicillin, quinine), others are obtained from animals (vaccines), but most of the modern drugs are chemical compounds developed in the laboratory. Some drugs work by destroying the disease causing germ. Others relieve symptoms of a disease, like pain, fever, or headache. The human body is a chemical factory that produces compounds such as hormones, and enzymes, which are necessary for life.	By reviewing labels on drugs, indicate what kinds of side effects people should be alerted to with certain drugs. Why do drugs sometimes cause various reactions in different people? FDA pamphlet SR-4 "Drug Side Effects"	The introduction of drugs into the body often results in unexpected, sometimes harmful, reactions known as "side effects." "Side effects" are many times mild with the person developing a slight rash or other comparatively trivial symptoms. However, "side effects" can also be quite harmful and sometimes may cause death.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	These substances control body processes such as growth, activity, and digestion. Body chemistry varies in people. In essence, the same drug is being introduced into varying environments.		A drug's reaction in a particular person is never completely predictable. Drugs should be used with caution and with a physician's supervision, particularly when the more powerful prescription drugs are utilized.
II. Prescription Drugs			
A. Definition	Prescription drugs are those that can only be legally bought with a prescription from a medical doctor or a doctor of dentistry who is licensed to prescribe medication.	Discuss the preparation and experience of those doctors who can, and those who cannot, prescribe drugs.	Prescription drugs are so categorized because they are considered strong enough to warrant medical supervision of their use.
B. Legislative Provisions	It is unlawful to sell a prescription drug without a prescription. Dosages of prescription drugs are based on the person's age, height, weight, and his condition of health - among other factors. Only a registered pharmacist is licensed to fill a prescription.	Invite a pharmacist to speak to the class describing his education and professional duties.	A pharmacist must be a graduate of an accredited college of pharmacy, pass a state examination, and be licensed in the state in which he practices.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
C. Use and Dispensing of Prescription Drugs	The physician will tell the pharmacist what instructions to put on the label of prescribed medicines. In taking medication a person should know: a) How often, and when to to take it b) How much to take each time c) When to check the effects of the medication with his doctor d) Any other special instructions the doctor may choose to give.	Examine the label on the bottle of a prescription drug. It should contain the number of the prescription, date it was filled, name of patient, instructions for use, physician's name.	
	The giving of a prescription drug to someone else because he appears to have the same or similar ailment constitutes the practice of medicine without a license. A pharmacist should not be asked to refill a prescription unless it has been approved by the physician. "Side effects" that may occur from the taking of medication should be promptly reported to the physician. Left over medicines should be discarded. Time can change the strength and nature of a drug.	FDA publication CM-38.	The attempt by a lay person to diagnose an ailment and prescribe strong medication for it is at best foolhardy. The Durham-Humphrey Amendment of the Federal Food, Drug and Cosmetic Act protects the consumer by forbiding the pharmacist to fill a prescription not authorized by a physician.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
III. Nonprescription Drugs (Over-the-Counter Drugs)			Nonprescription drugs are of value to the layman if he follows the directions and cautions given on the label.
A. Definition	Nonprescription drugs are those that may be sold "over-the-counter" or without a prescription.		
B. Legislative Provisions	The law requires that non-prescription drugs have directions on the label with regard to their use.	Survey television commercials concerned with drugs. Are there any differences in what is said or implied in the commercial and what appears on the label of the drug?	The Federal Trade Commission which supervises advertising does not have the power that the Food and Drug Administration does in its supervision of labeling. Lack of coordination in the powers of these federal agencies sometimes results in discrepancies in the information presented to the public with regard to drug products.
C. Use and Dispensing of Nonprescription Drugs	Directions for the use of a drug should be followed carefully since any drug if misused may be poisonous. Nonprescription drugs should be used for minor short term ailments with the advice of a physician. Any continuing illness or symptoms should be referred to a medical doctor.	Inspect the directions and warnings on the labels of nonprescription drugs. Request materials from the Food and Drug Administration.	Aspirin causes 125 deaths each year and 600,000 cases of poisoning (mostly among children).
	Never become the steady user of any drug unless it is recommended by a physician.	Survey advertisements on television, radio - in newspapers, magazines, etc. Do the ads attempt to lead the individual into self-diagnosing and self-medicating with nonprescription drugs? Do they attempt to lead the individual into the habitual use of a drug product?	Two billion dollars a year are spent in this country on patent medicines.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Many commercials on television, radio, in newspapers, and magazines, and the sales talks by door to door salesmen are designed to "sell" the public on the habitual use of unnecessary drugs: tonics, alkalines, pills, capsules, laxatives, pain relievers, etc.		
IV. Safeguarding Drugs and Their Use			
A. The Role of the Food and Drug Administration	The Federal Food, Drug and Cosmetic Act is designed to insure the safety and efficacy of drugs reaching the consumer.		Every batch of insulin, antibiotics, and vaccines for human use are tested by the Division of Biological Standards of the Public Health Service.
	This federal law is administered by the Food and Drug Administration.	Invite an FDA representative from the nearest FDA regional office to discuss the role of this federal agency in safeguarding the drug consumer.	
	A new drug developed by a drug manufacturer must be proved safe and effective for its proposed use by extensive tests. It is then submitted for approval to the Food and Drug Administration.		FDA personnel (physicians, chemists, pharmacists, et al) carefully evaluate the results of the manufacturer's testing of a drug.
	Only if a drug is proved safe by tests on humans will the Food and Drug Administration approve it.		First tests on a new drug are done on animals. If these prove successful they proceed to test the drug with humans.
	If a drug on the market gives any indication of being unsafe it can be recalled by the Food and Drug Administration.	Discuss the significance of the Kefauver-Harris Amendments and the protection they afford the drug consumer.	The Kefauver-Harris Amendments (1962) to the Federal Food, Drug and Cosmetic Act of 1938 required that there must be substantial evidence that a marketed drug be safe and effective for its intended uses.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	The rules for the proper labeling of drugs are also enforced by the FDA.	Become familiar with chapters; 323, 332, 918, of P.H. Law of State of N.Y. - Federal Food, Drug and Cosmetic Act amendments to section 201.	Chapter 323 of the laws of 1965 added article 33A of the Public Health Laws N.Y.S. which upgrades control of sale and distribution of drugs: No telephone prescriptions by physicians. Detailed records and inventories of drugs must be maintained. Chapter 918 requires a purchaser to be at least 21 to purchase a narcotic-containing drug unless it is by prescription. Federal Food, Drug and Cosmetic Act, section 201, amended 1965, includes similar requirements to the above State Law.
V. The Historical Use of Drugs	Drugs have long been used as a means of relieving tension, fatigue, and pain.		
A. Alcohol	The most common sleep producing or numbing drug is alcohol.	Review the literature and report on the historical uses of drugs by man.	In Roman times wine was given to prisoners before their execution to dull the agony of death. This was referred to as the "Wine of the Condemned."
B. Opium	Opium has been used for various purposes for many centuries.		Opium was known to the Egyptians and Persians at least a thousand years before Christ. During the Christian era the Greeks and Romans used opium in the practice of medicine.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Through the centuries, when little was known about treating disease, opium in varied forms was used as medication to relieve pain and discomfort.		Opium at this time was used as a pain reliever taken by mouth or used as a liniment. During the 9th and 10th centuries Arab camel trains carried and helped spread the use of opium to India, Persia, and China. British influence caused opium smoking to become widespread in China and it was introduced in this country when Chinese were brought here to build the railroads of the old west.
	During the 18th and 19th centuries a large variety of medicines containing opium were sold in this country before its addiction qualities were known.	Review controls now used to prevent unexpected reactions and effects from drugs in use.	By 1900 it was estimated that there were a quarter of a million narcotic addicts in the United States.
	Many people became accidentally addicted through use of medicines containing opium. The addicting and other dangerous properties of these drugs were then realized by physicians.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			The public is warned through newspapers, magazines, and other mass media about the dangers of drug addiction.
C. Anti-Drug Legislation	Both State & Federal Legislation has been enacted to control drugs.	Invite a narcotics squad agent to discuss his role in the control of drug traffic.	The Harrison Narcotics Act of 1914 regulated the importation, manufacture, production, compounding, sale, and dispensing of opiates or coca leaves (containing cocaine, a stimulant). While this was a good law, it did leave many people who were now ill with drug addiction without a place to go for treatment. The addicted were forced to get drugs illegally. The Harrison Narcotic Act initially caused a steady decrease in drug addiction. Since 1948, however, there has been a significant upsurge of addiction, particularly among young people.
VI. Habit Forming and Addicting Drugs A. Definition 1. Drug Addiction	Drug addiction and drug habituation are related in some ways. They are, however, different. The term "drug dependence" is useful and nonspecific. P2 (Senior H.S. unit)	Pharmacopoeia of the U.S. of America may be used as a reference.	Drug addiction is a state of periodic or chronic intoxication produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include: (1) an overpowering desire or need (compulsion to continue taking the drug and to obtain it by any means

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			(2) a tendency to increase the dose (3) a psychic (psychological) and generally a physical dependence on the effects of the drug (4) an effect detrimental to the individual and to society
2. Drug Habituation	Habituation is an emotional or psychological need for drugs in order to sustain a feeling of well being.		"Drug habituation (habit) is a condition resulting from the repeated administration of a drug. Its characteristics include: (1) a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being that it engenders; (2) little or no tendency to increase the dose; (3) some degree of psychic dependence on the effect of the drug, but absence of physical dependence and hence of an abstinence syndrome; (4) a detrimental effect, if any, primarily to the individual."
3. Drug Dependence	Drug dependence involves the real or imagined need for any addicting or habituating drug.		
B. Types of Drugs			
1. Stimulants	Physicians sometimes prescribe these drugs in small amounts.	Life magazine article, *Drug Addiction*, by J. Mills, Life, V. 58, February 26, 1965, page 66B-82+; March 5, 1965, page 92B-103+.	
a. Dangers	Self medication in the form of "pep pills" and		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	"Bennies" can sometimes lead to excessive nervousness, poor judgment, spasms, tremors, and hallucinations. People who fool with drugs of this type for "kicks" are not prepared to deal with the dangerous "side effects" these drugs can produce.		Benzedrine is found in diet depressant tablets and in drugs designed to help relieve depression. Truck drivers may use stimulant drugs to stay awake on long night hauls. Many serious accidents are associated with the use of these drugs. The sale of amphetamines or barbiturates to minors is punishable to the extent of a $5,000 fine and two years imprisonment for a first offense and a $15,000 fine and six years imprisonment for a second offense. Trade Names and Nicknames: - Seconal Sodium (secobarbital sodium) "red birds" or "red devils" - Nembutal (pentobarbital sodium) "yellow jackets" or "nemmies" - Amytal Sodium (amobarbital sodium) "blue heavens" - Luminal (phenobarbital) "purple hearts" - Tuinal (amobarbital sodium-secobarbital sodium) "tooies" or "rainbows" - Benzedrine (amphetamine sulfate) "bennies" - Dexedrine (dextroamphetamine sulfate) "co-pilots" - Diphetamine (dextroamphetamine sulfate - amphetamine sulfate) "footballs"

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Cocaine, a drug derived from the leaves of the coca plant, was once used as a local anesthetic until novacaine was developed. The habitual user of cocaine develops dangerous hallucinations, many times resulting in the assault and murder of people.		
b. Dependence	Stimulant drugs are habit forming substances with harmful and dangerous effects when misused. As tolerance for the drug develops the dosage needs to be increased for the same "kick."		Some amphetamine users may take 150 pills a day. Illegal sources charge 10¢ to 25¢ a pill.
2. Depressants	A number of narcotic drugs are used by physicians when treating patients to deaden pain and induce sleep.		
a. Medical Use	Care is exercised in the use of these drugs by the physician since overuse can result in the addiction of the patient.	Cite new State Mental Hygiene Laws - Section 200 of laws of 1966.	
b. Addiction	An addicted person deprived of the drug undergoes a withdrawal illness. This includes vomiting, diarrhea, fever, and severe cramps.	Discuss: Debate: Should the narcotics addict be treated as an ill person or as a criminal?	ADDICTING NARCOTIC DRUGS: Morphine, Codeine, Demerol, Methadone, Heroin (not used medically).

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Drug addicts are often people with personality problems who seek to escape their troubles through the use of drugs.	Discuss why some people resort to the use of drugs to escape their problems.	NONNARCOTIC, DEPRESSIVE, ADDICTING, AND DEPENDENCY DRUGS: Barbiturates, Ethyl alcohol, Chloral hydrate, Paraldehyde. NONADDICTING, NARCOTIC DRUGS: Marihuana.
	Escape through the use of drugs is a dead end since little is known about treating the illness of drug addiction.	How do drugs complicate rather than solve problems?	An addict can be helped medically to get through this illness. Complete cure is rare since the cure rate for drug addiction is approximately 6%.
	The craving for drugs is so intense in the addict that maintaining his drug supply becomes his main concern.	What constructive sources of help are there in the community for people with emotional problems?	The addicted person is forced to deal with and be at the mercy of the criminal to get his needed drugs.
	Committing varied crimes becomes inevitable since the maintenance of the addiction may run as high as $75. a day.	Discuss the relationship of the crime rate to drug addiction.	Theft and prostitution are common sources of money with which the addict purchases drugs.
	Marihuana is a strong habit forming drug and is often a stepping stone to the use of stronger addicting substances like heroin.		
	Heroin is one of the commonly used addicting drugs. It is so powerful and addicting that it has been outlawed for medical use in the U.S.	Film: Drug Addiction	
	Barbiturates are prescription drugs that are used as sedatives. Prolonged use can cause addiction.		Dependency on barbiturates has been rapidly increasing.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	People taking sleeping pills containing barbiturates have died from overdoses because they were too drowsy at the time to know what they were doing.		
3. Plastic Cements or Airplane Glue (Fumes)	Attempts by children to inhale the fumes from "airplane glue" have increased.		The inhalation of concentrated fumes of plastic cements or airplane glue will have the following effects: (1) Initial reactions: (30-45 min) mild intoxication, exhilaration, followed by lack of muscular coordination, slurring of speech and a drunken appearance, sometimes accompanied by hallucinations.
a. Effects	Reports indicate that inhalation of high concentrations of glue will cause damage to the respiratory system, heart, liver, and kidneys. A number of blood abnormalities and paralysis by nerve damage have occurred.		
	Medical authorities believe that increased sniffing can result in physiological damage.	Discuss "drug" parties; glue-sniffing, marihuana, pep-pills	(2) Period of drowsiness and stupor follows for up to an hour.
4. LSD (Lysergic Acid Diethylamide)	LSD is a dangerous and unpredictable drug to use.	Invite the school doctor to talk about the psychological effects caused by LSD.	LSD is an hallucinogen currently being given a great deal of attention. It is often found in various forms (sugar cubes and liquid) and may be taken quite easily. Its reaction may be very severe and, in fact, may induce psychotic states.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			LSD is still in the experimental state and is used only under close control situations by psychiatrists. Although users of LSD have made many positive claims as to its value in "mind expansion" there is no scientific evidence to verify these claims. Used by competent physicians, in treatment of some forms of mental illness, a controlled, desirable effect may result. The unstable and unpredictable effects of this drug demand strict medical control.
5. The Dope Peddler	Criminals who smuggle illegal drugs into the country may not be addicts themselves. An addict may be too unreliable to carry on such an intricate business.	Discuss the reporting of the dope peddler as a step in safeguarding our society.	
			The selling of illegal drugs is a highly profitable business. The original purchase of $1,000 of heroin in Italy or Turkey may sell for as much as $1,000,000 in this country after it has been diluted a number of times.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Peddlers often use teenage addicts to bring in new customers. In return the addict may receive a free supply of drugs. The peddler apprehended for selling a narcotic drug or marihuana to a person under 18 years of age is subject to a maximum sentence of 40 years imprisonment and a $20,000 fine. If a jury so decides, a special penalty for the sale of heroin to a person under 18 years of age consists of a $20,000 fine, 10 years to life imprisonment.

DRUGS AND NARCOTICS

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S M O K I N G A N D H E A L T H

An Experimental Unit for Grades 7,8,9

O V E R V I E W

The preadolescent and early adolescent represent the largest and most promising group of prospective tobacco users in the United States. Due to this fact it is imperative that junior high school pupils be familiar with various advertising appeals and approaches which have proven effective in inducing young nonsmokers to take up the dangerous smoking habit.

These pupils are at a developmental level characterized by an intense desire to be looked upon as adults. Their attempts to emulate what is judged to be mature behavior may result in habitual smoking which one day may lead to regret.

An understanding of habit formation and specifically the habit of tobacco use is important in enabling the pupil to better understand the nature of habits, and the persistence of habitual behavior.

A preoccupation with the body and its functions is characteristic of many individuals in this age group. This offers an excellent opportunity for the school to develop in its pupils a basic understanding of the physiological effects of smoking. This information will reinforce much of the more basic work included in the intermediate grades and should result in a realistic and informative view of the hazards of smoking, and hopefully will lead to the formation of those attitudes characteristic of the nonsmoker.

SMOKING AND HEALTH

(Teaching Units for Grades Four through Twelve)

INTERMEDIATE GRADES
(grades 4, 5, & 6)

I. Your Decision About Smoking

II. Man's Use of Tobacco

III. Tobacco and Health

IV. Deciding About Smoking

JUNIOR HIGH SCHOOL
(grades 7, 8, & 9)

I. The Advertisement and Promotion of Tobacco

II. Developing the Smoking Habit

III. Physiological Effects of Tobacco

SENIOR HIGH SCHOOL
(grades 10, 11, & 12)

I. Attitudes Toward the Use of Tobacco

II. Psycho-social Factors Related to Tobacco Use

III. Smoking Research and Reports

IV. Smoking Among High School Students

O U T C O M E S

THE PUPIL IN GRADES 7, 8, AND 9 SHOULD:

..... recognize the relationship between widescale advertising and the consumption of tobacco in the United States.

..... be familiar with the advertising techniques used to encourage smoking and increase the sales of tobacco.

..... be aware of the nature of habit formation and clearly understand the development of the smoking habit.

..... have a clear knowledge of the physiological effects of smoking.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. The Advertisement and Promotion of Tobacco		Tape record portions of television and/or radio cigarette commercials. When these are placed on tape and listened to without benefit of visual stimuli, their absurdity is quite apparent.	
A. Early opposition	Opposition to the use of tobacco developed soon after its introduction in Europe.		Since its introduction in Europe, tobacco met with opposition. The first attempts to discourage the expanding indulgence in tobacco were largely irrational.
1. 17th Century England			
a. Temperance and religious leaders	Opponents to tobacco use based their views on temporal and ecclesiastical precepts.		The first document of any importance attacking tobacco use was written by King James I of England and published in 1604, entitled "A Counterblaste to Tobacco." This treatise ridiculed the many medicinal virtues attributed to tobacco and came to the conclusion that "smoking is a custome lothsome to the Eye, hateful to the Nose, harmful to the Braine, dangerous to the Lungs, and, in the black stinking Fume thereof, nearest resembling the horrible Stygian Smoke of the Pit that is bottomless."
b. British physicians	In spite of efforts to discourage the use of tobacco during the 17th century, smoking has persisted through the centuries.		Following publication of this document, several members of the British Royal College of Physicians disagreed with the King. He threatened to send all doctors who smoked to the "land of the Red Indians," where they could perfect their habit.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Several popes during this century forbade the use of tobacco in church and threatened excommunication for those who failed to comply.
2. Measures in other countries			Smoking was believed to be in conflict with the Koran. Moslems caught smoking were dragged through the streets of Constantinople. Many Moslems were executed for smoking.
B. Early Appeals and Techniques	Even in its early stages, our tobacco industry was a highly competitive enterprise which utilized advertising techniques.		
1. Advertising began to appear in the middle 1800's			
a. Competition was keen		In what ways does current tobacco advertising reflect the keen competition in today's business world?	
b. Sales success depended on advertising skill	Money invested in advertising pays huge dividends in increased tobacco sales.		Even in the middle 1800's tobacco manufacturers were giving their products distinctive names, such as - Rock Candy, Cherry Ripe, Winesap, and Bouquet.
c. Limited newspaper advertising			Inconspicuous newspaper ads were used by tobacco retailers. Frequently large-scale tobacco transactions were given headline coverage in newspapers.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
d. Evidence of advertising appeals to specific consumers			John Green, originator of Bull Durham, chose the trademark of the bull to appeal to the masculinity of males.
2. Increased advertising efforts in late 1800's	Tobacco testimonials for the promotion of sales were used successfully in the early 1800's and continue to be used today.	Perhaps a local antique dealer has early ornate cigar cans or boxes, and posters which could be used to illustrate early advertising methods.	In advertising the "bull" to the public, testimonials of approval from prominent people, including clergy and senators were spread across the nation.
a. Ads appeared on sides of barns and in some magazines of the day			In the early 1800's one tobacco firm reported spending $100,000 for advertising in the country newspapers and approximately $50,000 in metropolitan newspapers. They also reported distribution of premiums valued at approximately $60,000.
b. The girl motif began to appear, especially on cigar boxes.			
c. "Trade wars" between leading manufacturers stimulated more intense advertising	Competitive efforts to promote higher tobacco sales lead to more intensive advertising campaigns.	Identify advertising efforts which will illustrate the competitive nature of our present tobacco industry.	Current tobacco commercials clearly indicate how competitive the industry is. Some companies claim that their product provides "full roasted tobacco flavor" rather than the flavored tobacco used in other cigarettes. In the late 19th century, tobacco salesmen and retailers awarded premiums, especially for cigar sales. These buying incentives included pictures of actresses prizefighters, cigar cutters, matches, and for large orders, mantel clocks.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
C. Advertising techniques of the 20th century			
1. Health appeals made	Before the harmful effects of tobacco smoking were known, people were led to believe that smoking was beneficial to one's health.	Locate issues of magazines published in the late 1950s and show your students athletic testimonials. At one time in the middle 1950's, Mickey Mantle appeared in ads of a particular brand. Later in his career he appeared in ads promoting a tablet to help people stop smoking.	Early ads implied something harmless about the exotic blend of Turkish and domestic tobaccos. During the 1930's, advertisers began to use such mottos as - "Not a cough in a carload," "The throat-tested cigarette," "For digestion's sake, smoke _____." The identification of doctors with smoking began in 1936 when one company claimed that "More doctors smoke _____ than any other cigarette." Many church groups and state senators attempted to expose the industry's appeal to convert youth and women to the tobacco habit.
2. The appearance of the "athletic appeal"		Organize an assembly program for your school. Various resource people may be invited to speak to your students.	Battles for sales leadership near 1900 utilized testimonials from European opera stars who claimed that smoking a particular cigarette helped them to "save their voices." Even in this period athletes stated that a particular brand of cigarettes helped them to "stay in shape."
3. Attempts to expose the "unethical" educational campaigns	Nearly half a century ago, objections were raised to the manner by which spurious tobacco advertising was being used to encourage smoking.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
4. Use of subtle educational campaigns		Write to leading tobacco companies requesting information on the growing and processing of tobacco. The teacher should screen this material and then demonstrate to the class how the manufacturer is attempting to promote his product via this educational material.	The tobacco industry attempted to institute National Tobacco Week, a campaign to describe the important role of tobacco in American life.
5. Increase in advertising	Efforts by cigarette manufacturers to develop unique and appealing packaging techniques have been an important factor in promoting tobacco products.	Perhaps your class can determine whether or not tobacco companies lobby in Congress. To what extent do these groups influence legislation? What kinds of legislation would they be interested in?	During 1931, tobacco companies in America spent an estimated $75,000,000 on advertising. Cellophane was first used in packaging cigarettes and one company offered a $50,000 prize to the person who, in one statement, could describe the advantages of such a wrapper. (This contest was won by a Boston milk man.)
	As new communications media were developed, they were utilized by the tobacco industry for advertising purposes.		The most distinctive feature of advertising in the 1930's was the increased use of radio as an advertising medium.
6. Increased cost of cigarettes		Determine the increase in costs of leading brands of cigarettes for the past 20 years. Plot these changes on a line graph and compare with other commodities.	In 1930, leading brands were selling for 10¢ per pack. By the end of the decade, prices were 15¢ per pack. Increase to offset advertising costs.
D. Research Reports of early 1950's which affected cigarette advertising	Beginning in the early 1950's, a series of scientific investigations indicated that smoking is detrimental to one's health.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHINGS AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
1. Report of the American Cancer Society (1953)		Contact representative of the local chapter of the American Cancer Society to speak to your class about the findings of research. It would be appropriate to have this representative also mention current programs relative to smoking and lung cancer being conducted by the ACS.	
a. Indicated possible relationship between smoking and lung cancer			
(1) Cigarette sales dropped after publication			Following publication of the ACS report in 1953, cigarette sales fell off. This was only a temporary reaction, for by 1955, sales once again soared.
(2) Reactions to the temporary decline in sales			
- Increased advertising	Intensive advertising campaigns may convince the public that cigarette smoking is safe.	Students suggest reasons why the public failed to heed the ACS Report linking smoking and lung cancer. Perhaps this phenomenon can be compared to our awareness of other health hazards and our reluctance to act in a manner consistent with our knowledge.	Advertising expenditures increased 134% between 1954 and 1960. Sales rose 27% in this period.

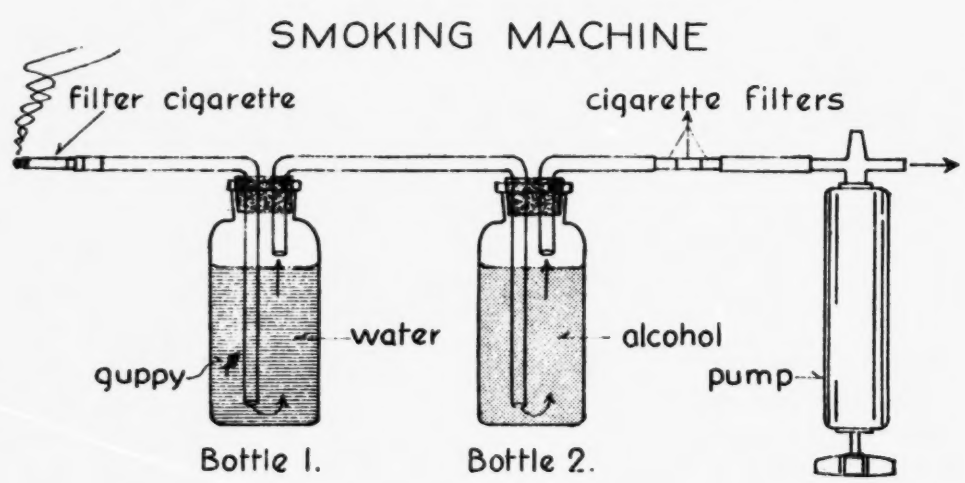
REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
- Development of new cigarettes to meet demands of a wary public			
- Appearance of new brands on the market		See attached sheet for details of constructing a "smoking machine" which is useful in demonstrating the ineffectiveness of various filters.	By the middle 1950s, cigarette advertising was promoting filters which were said to "remove the harmful ingredients from tobacco."
		Prepare a nicotine insecticide by soaking the filters from the "smoking machine" in water. Determine the effectiveness of this insecticide.	Special promotional costs involved in launching a new brand of cigarettes is estimated to be nearly $10,000,000.
2. Reports from Great Britain (1962)		Write to the U.S.P.H.S. requesting information concerning the incidence of lung cancer in other countries.	In Britain, the Royal College of Physicians and Surgeons, and the medical journals The Lancet and The British Medical Journal issued this report. The report is the result of the work of a committee appointed in 1959 to study smoking and atmospheric pollution in relation to lung cancer and health.
a. Reported cigarette smoking to be a possible cause of lung cancer		Perhaps your class would enjoy finding out more about United States policy concerning the sales and promotion of American-made cigarettes in other countries.	
b. Issued report - "Smoking and Health"			
3. Danish activities (1962)	Many countries have recognized the relationship between lung cancer and smoking, and some have taken measures to control the use of cigarettes.	Discuss the question - "Should a government have the power to control cigarette smoking?"	In Denmark, the government was urged to restrict or abolish all cigarette advertising. In addition, they were urged to prohibit smoking by those under age 16.
a. Report affirmed the relationship between smoking and lung cancer			

THE SMOKING MACHINE

This device can be easily constructed by a small group of students, providing they have had previous experience with glass bending and they know the proper manner of inserting glass tubing in rubber stoppers. Inexperienced students, with teacher supervision, would have little difficulty with this project.

The smoking machine operates by pumping air from the area above the surface of the alcohol. The decreased air pressure created causes air to enter through the only inlet available, the lighted filter cigarette on the left.

The result is that the cigarette smoke is drawn through the two bottles and eventually through the pump.



Effects to be noted:

1. Enough contaminants from the tobacco have entered bottle #1 to markedly discolor the water.
2. The alcohol in bottle #2 will become discolored as a result of the tars and other contaminants that have passed through the cigarette filter.
3. The cigarette filters placed in the tubing between bottle #2 and the pump become discolored from contaminants which have managed to pass through (a) the cigarette filter, (b) the water in bottle #1, (c) the alcohol in bottle #2.
4. Close examination of the hand pump will reveal the presence of tars and other contaminants.

Conclusions:

Cigarette filters are not effective in filtering tars and other contaminants in tobacco smoke.

This demonstration may be modified in many ways. Students may be interested in using different brands of cigarettes and various types of filters.

The teacher could substitute water for the alcohol in bottle #2 and place a guppy or tadpole in the water. The effects of tobacco contaminants on this animal's life might be interesting.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Danish government urged to take action			
4. Report of the Surgeon General's Sub-committee (January 11, 1964)		Have a student committee determine your school's library holdings relative to smoking and health. Arrange with the school librarian to order additional materials which are suitable for secondary students.	
a. Cigarette sales dipped immediately after publication of the Report			The U.S. Department of Agriculture reported that U.S. smokers consumed about 511 billion cigarettes in 1964, compared to 524 billion in 1963. Most of the decline in sales came immediately after the Surgeon General's Report was issued. In 1966, it is estimated that cigarette consumption in the United States will exceed a rate of 5,000 cigarettes for each person over 16.
b. By the end of 1964, sales returned to previous levels			
E. Impact of research findings on advertising and promotion	The fear of endangering their health caused many cigarette smokers to demand a "safer" cigarette.		In the past 30 years, the number of cigarettes smoked (per capita) has increased about 950%.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
1. Development of the "tar derby"		Have your class organize, develop, and maintain a "Tobacco Information Center" in a conspicuous location in your community or school. Handout leaflets available from the A.C.S. and other sources may be distributed. Perhaps regular showings of a current film on smoking hazards could be arranged.	It is important to emphasize that no special cigarette filter has yet been developed which will adequately remove harmful tars from tobacco and not greatly alter the flavor of the tobacco.
a. Attempt by manufacturers to convince the public that their cigarette is lowest in tars	Efforts to advertise "safe" cigarettes were evident immediately following the Surgeon General's report.		
b. Involved much misrepresentation of cigarette filter efficiency		Mount various cigarettes on oak tag (not exposing the brand names) to illustrate the various features of cigarettes - charcoal filter, water filter, recessed tips, king-sized, etc. Emphasize that none of these successfully removes tobacco carcinogens.	
2. Fragmented market developed			The filter-tip market appealed to those who were concerned about the harmful effects of cigarette smoking but who continued to smoke. In 1964, the comparatively new filter-tip market made up approximately 61% of the total cigarette market.
a. An attempt to appeal to many people	No cigarette filter has been developed which can protect the smoker from the cancer-producing agents of tobacco and not greatly change the taste of the tobacco.		
b. Filter-tip appeal		Impromptu activity - Ask students to jot down, from memory, what they remember about any of the current cigarette ads. Analyze the findings and relate them to the advertising appeals being made.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Nonfilters, king-size cigarettes	The filter-tip cigarette is promoted in this country, not to safeguard the health of the smoker, but rather to increase tobacco sales.		The claim was made that the filterless, king-sized cigarettes acted as a natural filter as the smoke is required to pass through more tobacco. This assumption is erroneous, because smokers tend to smoke more of the longer cigarette.
d. Regular cigarettes constitute the final segment of the market		A set of nine slides showing cigarette ads with a spurious appeal to the health motive is available from the New York State Tuberculosis and Respiratory Disease Ass'n., Inc.	The appeal of the regular cigarette is to those who enjoy "old-fashioned undoctored smoking, with full tobacco flavor."
F. Changes in advertising			
1. Attempts to encourage smokers to identify with a particular brand	Health claims disappeared from cigarette advertising shortly after publication of the facts about smoking and lung cancer.	Organize a student program to be presented to the P.T.A., which illustrates the various promotional techniques of tobacco companies.	If smokers would identify with a particular brand, this would tend to stabilize the market.
2. Nearly all health claims have been dropped from advertising			There has been no attempt in advertising to refute the scientific evidence linking cigarette smoking and lung cancer.
a. Medical atmosphere is missing from commercials			
b. Current emphasis is on smoking for pleasure		Tape record cigarette television and radio commercials. Have students identify the appeal being made by the advertiser.	The desire of the individual to be somewhat individualistic, masculine, or feminine is apparent in present-day advertising.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Increased expenditures for advertising and promotion	It is apparent that the primary interest of the tobacco industry in the United States is to make money and not to safeguard the health of our people.		In 1961 approximately 177 million dollars was spent for advertising tobacco products in the U.S. Of this total expenditure, 134 million was spent for television and radio commercials.
a. Use of "gimmicks" to introduce new brands to an already crowded market		Students develop exhibits on smoking and health for school health and/or science fair.	
b. New packaging techniques			New packaging techniques include the flip-top box, the slide-top box, the use of new plastic and foil outer wrappings.
4. Increased emphasis on appeals to our teen-age population	Encouraging teen-age smoking has become a primary objective of cigarette advertisers.	Student committees to suggest ideas for "Smoking Discouragement" program for their school and community.	Advertising firms realize that teen-agers constitute the largest "untapped," eligible age group in which the industry may expect to increase sales.
a. Teen-agers are a prime target.			
b. During the period 1960 - 1965, the teen-age smoking population increased more than 8%.	A lack of understanding of the scientific findings, and the tendency to be unconcerned with the future has resulted in an increased number of teen-age smokers.	Students might prepare a script for a play, dramatizing how a young teen-ager might be encouraged to begin smoking.	It is evident to the tobacco industry that many young people have not been alerted to the health hazards of smoking. Others have not shown much concern over the recent research findings. One Oregon student commented - "Nobody young worries much about some disease they might get forty or fifty years from now." This attitude points up the need to make the findings about smoking and health of immediate concern to our young people.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
G. The teen-ager as an advertising target		Have students try to determine how tobacco advertising is directed at the young. Ask them to suggest why this appeal is made. This could result in a lively and most worthwhile discussion.	It has been the American tradition in advertising to "make the appeal to the young."
1. Ads appeal by means of allusions to -	Current promotional approaches mislead our young people into believing that by smoking one may become a more dynamic, likeable, and effective person.	Use an opaque projector and magazine ads to illustrate the propaganda tricks such as glittering generalities, testimonials, the plain-folks appeal, the bandwagon appeal, etc.	Teaching young people about smoking should be conducted with these advertising appeals in mind. It has been demonstrated that success in antismoking campaigns will usually not result by resorting to fear or to moralizations. Perhaps educators can discover some value in the educational techniques used so successfully in the industry.
a. Athletic prowess			
b. Popularity			
c. Datability or sociability			
d. Sexual allure		Arrange for your students to make a survey of unsupervised cigarette vending machines in your community.	
2. Common promotional methods			The use of nonrational symbols has been used to great advantage by the cigarette industry. For example, to create a cigarette with a strong masculine appeal advertisers might - (1) show only men in the ad (2) use only virile-type male models, i.e., rugged construction worker, rancher.
a. Use of broad, attractive statements which can neither be defined nor substantiated	The vagueness and ambiguity of many advertising claims are easily recognized by a critical person.	Ask students to scan magazines, newspapers and other media for cigarette ads that include statements or inferences by pseudo-experts attesting to the quality of the product. Have students bring the ads to class and report on their findings. Mount the better examples on construction paper and display on bulletin board.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Citing irrelevant authorities to testify about smoking and cigarettes	Basic principles of psychology are used by cigarette advertisers to influence the smoking habits of people.	Have students paraphrase current advertising slogans: Ex. - "I'd rather fight than switch." "I'd rather fight than smoke." Ex. - "The thinking man's cigarette." "The cigarette's stinking man."	(3) Choose those models who represent successful, forceful personalities to inspire teen-age emulation of a supposed desirable figure (4) Reinforce the virility of the model and add a devil-may-care or swashbuckling symbol such as a tattoo, etc.
c. Making appeals that appear to be straight from the shoulder and very friendly			
d. Use of the bandwagon appeal		Using the tapes made previously, have students identify the bandwagon appeal and other appeals used in the commercials.	The bandwagon appeal involves the notion that everybody has accepted the position taken in the ad.
e. Supplying incomplete information so as to obscure the facts			
H. Controls on tobacco advertising since 1955			
1. In 1955 the Federal Trade Commission issued a guide for advertising	The U.S. government has urged tobacco manufacturers to refrain from making advertising claims that cannot be substantiated by scientific facts.	Students may wish to prepare cartoon posters designed to discourage smoking.	The FTC statement banned all filter claims that could not be supported by scientific evidence. The manufacturers simply made their advertising appeals in other ways.
2. In 1960 the FTC succeeded in persuading the tobacco industry to discontinue the "tar derby"			Misleading ads for filter-tips have largely disappeared from magazines. Claims about tars and nicotine have all but disappeared from cigarette advertisements.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Cigarette ads were banned or closely controlled in other countries	Some governments have taken deliberate steps to protect their citizens from misleading cigarette advertising and the health hazards involved.	Attempt to determine how advertising bans in other countries have affected cigarette sales. Correspond with your area legislators to learn of the laws and regulations regarding the sale and purchase of tobacco products.	In Italy, all tobacco advertising was banned beginning May 12, 1962. It is interesting to note that the government controls the industry in Italy and therefore there was little political opposition to the ban. In Finland, television advertising of cigarettes ended in July 1962. The British Labor Government announced that it planned to ban all cigarette advertising on television and was contemplating a similar ban on newspaper and poster ads.
4. Additional changes in the United States			
a. Health hazard warnings on all packages of cigarettes	The evidence linking lung cancer and other respiratory illnesses with smoking has resulted in Congressional action to warn all smokers of the hazards of smoking.	Using a hand magnifying lens, examine the warning on several different cigarette packages. Note any difference in the appearance of the letter "m" on the word "may." Have students comment on their findings.	The first federal legislation requiring cigarette manufacturers to warn the public of the risks involved in using cigarettes was passed by Congress on July 14, 1965 and signed by President Johnson on July 27, 1965. The bill provided that after January 1, 1966, all cigarette packages must bear the statement "Caution: cigarette smoking may be hazardous to your health." Manufacturers who do not comply will be fined $10,000 for each offense.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Appearance of effective antismoking campaigns c. Educational campaigns in schools and communities	Individuals, groups, and governmental agencies have begun educational campaigns to alert the American public to the health hazards of smoking.	Have students suggest how an effective antismoking campaign might be conducted in your school. If the students are sufficiently motivated, this would present an excellent opportunity to involve the entire school in your work.	Professional athletes, the American Cancer Society, health departments, state education departments, and other official and voluntary groups have been active in these programs.
d. New York State Law		Students may recognize the ease with which an underage individual may purchase cigarettes in your community. Perhaps they can suggest ways that this practice might be discouraged.	Sect. 484 - Subdivision 5 of the Penal Law of N.Y.S. states - "A person who sells or pays for or furnishes any cigar, cigarette or tobacco in any of its forms to any child actually or apparently under the age of 18 is guilty of a misdemeanor."
e. Legislative action in other states	Concern over the relationship between smoking and health has resulted in considerable legislative activity in many states and at the federal level.	Perhaps your class can draw conclusions about the "politics of tobacco" by reviewing legislative proposals from various states.	Legislation has been sought in Nebraska, New York, New Mexico, California, Michigan, Oregon, Florida, and other states, proposing public health measures to control cigarette consumption.
f. Legislative attempts on the federal level		Perhaps a local congressman or representative is available to meet with your class to discuss various bills concerning smoking and the tobacco industry. It might be interesting to have him indicate his opinion of specific proposals.	Federal proposals have called for regulations providing for the labeling of cigarettes as to their tar and nicotine content and their hazards to health. Some of these bills also called for research on current smoking habits, ways of reducing smoking, developing smoking withdrawal clinics, and public educational campaigns. These proposals are frequently vigorously opposed by those states whose economies depend heavily on the sale of tobacco.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
g. Voluntary controls		Display the series of "I Don't Smoke" posters available from the American Cancer Society as examples of the efforts (voluntary) of individuals who are dedicated to the idea that smoking is detrimental to one's health.	The New Yorker, Reader's Digest, and Saturday Review have decided to discontinue cigarette ads in their publications until such time as cigarettes are proven safe. The tobacco industry has agreed to suspend all advertising in college newspapers.
II. Developing the Smoking Habit			
A. Habit formation			
1. The nature of habits			A habit is a learned behavior or response so well established that it has become repetitive and more or less automatic.
2. Reasons why we form habits	Habits, both desirable and undesirable, are an important part of the individual's behavior repertoire.	Have students suggest examples of habits they practice which have been developed in each of the following ways: (1) by teachings from others or through their own experiences (2) through attempts to serve their own purposes (3) to provide an easy, tension-relieving method of accomplishing something in a satisfying way This activity may be conducted via a general discussion or, to encourage more	The development of habits of personal hygiene are generally taught by parents and reinforced in the school. Through his own experiences in school a student may develop study habits which he believes are necessary if he is to achieve at a particular level. An individual who has difficulties in interpersonal relationships may develop habits of attention-getting
a. Taught by others or learned through our own experience			
b. Acquired to serve our own purposes			
c. Provide an easy, tension-relieving way of doing things that satisfy us			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		active student participation, on a buzz group or small group basis.	behavior so as to provide himself a relatively easy, yet satisfying way of being noticed by others.
		Have students prepare a paper which discusses what they consider to be their most desirable and their most undesirable habit in each of the following areas: (1) eating and drinking (2) sleeping (3) interpersonal relationships (4) school work (5) cooperation with parents and other members of the family.	
3. Habits: a help or hindrance?			
a. Desirable habits	The development of desirable habits contributes to human effectiveness and efficiency.	Prepare a classroom bulletin board with pictures illustrating people exhibiting behavior which, if habitual, would result in a saving of considerable time and energy.	The word "desirable" is relative, but it is used to indicate those behaviors which are generally accepted as "good" by a social majority.
(1) Make desirable behavior automatic		From the papers prepared by students outside of class, summarize the undesirable and desirable habits mentioned by the students. Have the group suggest what steps would be necessary in order for an individual to overcome certain of these habits.	When undesirable behavior is rejected by those in authority, and they demand a different behavior from us, we often experience frustration.
(2) Conserve time and energy			If habitual behavior conflicts with the expectations of our friends and families, our relationships with these people may be strained.
(3) Are personally satisfying			

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b. Undesirable habits	Undesirable habits result in inefficiency and a decrease in personal effectiveness.	Have each student prepare a script for a puppet show to demonstrate how habits may be our friends or enemies. An excellent opportunity to emphasize the undesirability of developing the smoking habit.	The reason why athletic coaches emphasize the importance of performing skills correctly during practice sessions is to avoid the formation of undesirable habits which result in sloppy play under competitive conditions. Perhaps the most pertinent example of wasted time and energy through undesirable habitual behavior is the student who submits his written work in a sloppy, careless manner. If his teacher rejects the work and demands a more thoughtful job, more student time and effort is required. This could be avoided by preparing the work properly the first time.
(1) Cause unconstructive behaviors to become automatic			
(2) May result in wasted time and effort			
(3) Are a cause of personal frustration		Using two chalkboards, have students suggest examples of good and bad habits that they believe are essential for effective adulthood. There may be a conflict of opinions. If so, this will provide an excellent opportunity to discuss individual differences.	
(4) Affect interpersonal relationships			
4. Habit development	Habits are developed because of personal reasons or because parents or other individuals consciously or unconsciously teach them.	Ask students to explain the reasons why they developed a particular habit. Introduce the term "motivation" and indicate that there is a reason for <u>all</u> human behavior.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
a. Motivating purpose (1) Personal reason (2) Demands of others			The example of learning to drive a car efficiently may be used to illustrate the significance of each phase in the development of a habit.
b. Value substitution	The development of desirable habits often involves the substitution of one value for another.		The individual who decides that completing homework assignments at a certain time rather than watching a television program has substituted one value for another.
c. Practice of the behavior d. Permit no exceptions e. Behavior becomes a habit	A habit will develop if we practice a behavior and allow no exceptions to this pattern.	Use socio-drama to demonstrate how a junior high school student is motivated to develop a habit his parents would like him to develop. Students will have little difficulty thinking of situations that might be dramatized and the tendency parents have to demand the substitution of one value for another, constant practice, etc.	Many have learned that washing one's hands before eating is desirable behavior. When the behavior is practiced sufficiently, it becomes part of the individual, is automatic, and is in no way unpleasant or inconvenient.
B. The smoking habit			
1. Why do people start smoking? a. Curiosity	People start smoking, not because of a physical need or desire, but rather to satisfy a psychological need.		
b. Sociability and peer pressure	Although there is no single reason why individuals start smoking, the desire to be favorably looked upon by others is an important factor in starting to smoke.	Have students suggest behaviors which develop as a result of one's desire to be accepted by peers.	Few children smoke before the age of 12 years. Researchers have indicated that by the 12th grade between 40% and 55% of the students are smokers.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Imitative behavior d. Desire for adult status			The development of the smoking habit involves a wide range of motivations and there is no single reason why most people smoke.
		Have students suggest different types of jobs which prohibit smoking. Compile a list and discuss why smoking is banned in each of the occupations.	
2. Why do many people <u>not</u> smoke?	Most adult women and approximately one-third of the male adults do not smoke.		Approximately 25-32% of adult men and 60-68% of adult women do not smoke.
a. Awareness of health hazard b. Religion	There are a number of reasons why many people have made the decision not to smoke.	Review the basic findings of the Report to the Surgeon General on Smoking and Health.	
c. Expense of the habit d. Lack of desire e. Offensiveness of the habit		Have your class calculate the annual expense of smoking one pack of cigarettes daily. How could this amount of money be better used? How much interest would this money accumulate in a savings account at a rate of 4¼%? 5%? 6%?	Americans spend approximately eight billion dollars a year on tobacco products.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
f. Desire to set a positive example for children		Discuss the etiquette of smoking in another person's presence, in someone's home, in another person's automobile...	Investigations have all shown a close relationship between parental smoking patterns and the smoking habits of their children. Smoking is harmful mainly to the individual and poses much less of a threat to society than does the illegal use of addicting substances. Another essential difference between tobacco and other drugs is that tobacco may be legally used for social purposes in the U.S. while there is no legal social use of the addicting drugs.
C. Continuation of the smoking habit			Once the habit of tobacco use has been developed, it is most difficult to break. During wartime when cigarettes were scarce, people stood in line for hours just to buy one or two packs. In war-stricken countries people often prefer to go without food staples in order to have cigarette money.
1. Habituation to tobacco is not easily broken	The fact that the majority of smokers continue to smoke, demonstrates the extreme difficulty one has in breaking the habit.	By means of a questionnaire, determine the extent to which the smoking parents of your students (who would like to stop smoking) have actually succeeded in discontinuing the smoking habit. The various reasons for failures to stop smoking may be useful and interesting to your class.	
2. Situational motivation for smoking	Some individuals smoke out of boredom and not necessarily because they enjoy smoking.		Some people smoke when bored. Perhaps occupational conditions could encourage a person to smoke to relieve boredom, without any personal attachment to smoking. After work, when the boredom vanishes, so does the smoking habit.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Physiological effects of nicotine		Perhaps your students know firsthand of individuals who have attempted to stop smoking. Describe the physical and emotional reaction of a heavy smoker who is attempting to discontinue his smoking habit.	Although there is no conclusive evidence that smoking is an effective tension-reducer, many people believe it helps them to relax. Psychological factors are undoubtedly involved.
4. Personal factors		FS #2	Personal factors would include a liking of tobacco taste or other psychological factors, i.e., oral satisfaction.
D. Discontinuing the smoking habit	The probability of an individual's discontinuation of smoking is greatest if he began to smoke late in life, if he has not smoked for many years, and if he is not a heavy smoker.	Select two or three students to find information on "smoking withdrawal" clinics. It would be interesting to discover how these clinics operate and to what extent they have been successful.	The rate of discontinuation of smoking has been found to be highest among those who began smoking late in life, who smoked the least number of cigarettes, and who had smoked the least number of years.
1. Factors involved			
2. Among teen-agers	Many people are successful in breaking the smoking habit, but the motivation to do so must be high.		Former teen-age smokers have indicated that lack of enjoyment and dislike for smoking are the major reasons for stopping smoking.
3. Adults		Another small group of students might visit with a local pharmacist to determine how many "over-the-counter" pills, capsules, etc. are now available which are advertised as being effective in helping one to stop smoking.	It is estimated that approximately 10-13% of adult smokers quit smoking. Reasons commonly offered are: -- health considerations -- the expense is too great -- moral reasons -- desire to test their "will power"

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Write for materials from the U.S. Government Printing Office and to organizations interested in controlling the smoking habit.	
III. Physiological Effects of Tobacco			
A. Composition of tobacco smoke	Tobacco smoke consists of many complex substances, some of which irritate the lungs and other parts of the respiratory tract.		Several hundred million to several billion particles are found in each cubic centimeter (¼teaspoonful) of tobacco smoke. At least nine gases in tobacco smoke are irritating to the respiratory system.
1. Complex mixture of gases and finely-divided liquid and solid particles			
2. Compounds of medical interest	Some of the elements of tobacco smoke have been carefully studied by medical and biological researchers, and their irritating effects on the body are well understood.	Have a student committee do research reading in the Surgeon General's Report and report to the class on the variety of toxic substances in tobacco.	
a. Nicotine	Nicotine is an oily, poisonous substance. There is enough nicotine in one cigarette to cause death, were an individual to receive the full amount directly into his circulatory system.		The physical effects of smoking are a result of the action of nicotine inhaled in tobacco smoke. The more a smoker inhales, the more nicotine he absorbs.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Carbon monoxide	Substances in tobacco smoke interfere with the normal supply of blood and oxygen available to body tissues.	Discuss the danger of asphyxiation from exhaust fumes containing carbon monoxide.	Carbon monoxide is formed as a result of incomplete combustion. During and immediately after smoking, the CO content of the blood increases as much as 10%. At 98.6°F. the affinity of hemoglobin for CO is 200 - 300 times greater than for oxygen. The increase of 5% in carbon monoxide-hemoglobin (CO-Hb) corresponds to the loss of ¼ of a liter of blood for oxygen-conveying purposes. The implications for physical performance are obvious.
c. Chemical irritants and carcinogens	Several specific chemicals which are harmful to the smoker's health have been identified in tobacco smoke.		Cigarette tobacco contains more tar than cigar smoke. These tars have been classified as carcinogenic, or cancer-producing. At least eight compounds have been identified in tobacco smoke as being carcinogenic. Tars are complex compounds formed during the combustion of tobacco. Arsenic, another carcinogenic substance present in tobacco is a residue from insecticides used for spraying tobacco plants.
	In view of the apparent health dangers involved in smoking, an individual who does not smoke should be discouraged from smoking and the active smoker should be encouraged to stop smoking.		
B. Factors affecting the composition of tobacco smoke			
1. Production and processing procedures	The amount of nicotine and other irritants in tobacco smoke is determined by the type of tobacco smoked, certain production and manu-	Student research on the varieties of tobacco cultivated in the United States and the qualities claimed for each variety.	The amount of nicotine and other substances in tobacco varies, due to differences in the soil, the variety of the tobacco leaf, and in the processing method itself.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	facturing processes, and the manner of smoking the tobacco.		The shorter and thicker the cigarette, the more nicotine passes out with the smoke. Nicotine becomes more available in loosely packed cigarettes, and the nicotine content appears to be higher in dry tobacco.
2. Manner of smoking a. Speed of smoking b. Inhalation c. Butt length	Smoking is more injurious to one's health if the person smokes rapidly, inhales the smoke, and leaves a short butt end.	Discuss the extent to which "Smoking and Health" researches have taken into consideration the rate of smoking, butt length, etc. Use the "smoking machine" to compare tar residue accumulated from different length butts.	The faster the cigarette is smoked, the higher the nicotine concentration in the smoke. Inhaling the smoke may increase the absorption of nicotine as much as ten times that expected if one did not inhale. The amounts of nicotine and other substances ingested increase as more of a given cigarette is smoked.
C. Tobacco and the body			
1. Respiratory system a. Ciliary action	Tobacco smoke interferes with the normal cleansing action of the cilia and mucus membrane lining the breathing passages of the respiratory system.	FS #2 (Nature's Filter) Student reference #6 (Your Health and Cigarettes) may be useful in providing background for this topic.	Cilia are the fine, hair-like projections which line the respiratory tract and serve to reject harmful materials by moving a continuous film of mucus upward in the respiratory tract toward the mouth. Smoking hampers the action of cilia and eventually shortens and destroys them, thus permitting the accumulation of toxic substances in the lungs.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Mucus membrane		Using an anatomical chart or model, point out the location of mucus membrane in our respiratory system. Discuss its functions.	Smoking causes irritation to the mucus membrane of the nose and throat. This is probably due to the presence of a variety of substances in the smoke, i.e., volatile acids, phenols, ketones, and aldehydes. Tobacco smoke stimulates the secretion of mucus and delays its removal by slowing down the action of cilia lining the bronchial tubes.
c. Lung cancer and other respiratory diseases	Cigarette smoking is a cause of lung cancer in both men and women.		
(1) Lung cancer	Chances of developing lung cancer increase greatly the longer one smokes and the more one smokes.		The risk of developing lung cancer increases with the duration of smoking and the amount smoked, and is diminished by stopping smoking.
	Smokers who discontinue the habit decrease the likelihood that they will develop lung cancer.	FS #4 (I'll Choose the High Road)	In comparison with nonsmokers, average male smokers increase their chances of developing lung cancer by nine or ten times. For heavy smokers, the risk is approximately twenty times greater. More recent evidence suggests that the same risks are present in women smokers, but to a lesser degree.
	The risk of lung cancer is greater for those who smoke pipes and cigars than for those who do not smoke. The greatest risk factor, by far is among those who smoke cigarettes.		The risk of developing lung cancer is greater among pipe and cigar smokers than for nonsmokers, but considerably less than for cigarette smokers.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
(2) Chronic bronchitis	Cigarette smoking is the most important cause of chronic bronchitis in the United States, and increases the chances of dying from chronic bronchitis and emphysema.	Using a model or physiology charts, show the students the respiratory system.	Bronchitis is an inflammation of the lining of the bronchial tubes. These tubes, called bronchi, connect the windpipe with the lungs. When the bronchi are inflammed, the air flow from the lungs becomes labored and a heavy mucus is coughed up. Bronchitis becomes chronic when the coughing and spitting up of mucus persists for months and returns each year. The use of antibiotics is effective in treating many cases of chronic bronchitis, but an essential part of the treatment is discontinuation of smoking.
(3) Emphysema	Although there is no clinical proof that cigarette smoking is a direct cause of emphysema, a large percentage of those suffering from emphysema are heavy smokers.	Distribute materials from the American Cancer Society (pamphlets) on emphysema and chronic bronchitis.	Emphysema often is a late effect of chronic bronchial inflammation and infection. When the bronchi become irritated, obstruction of airways may result and air is trapped in the lung tissue beyond the obstruction. Sometimes the tissue walls of the air spaces in the lung tissue tear. The result is a decreased contact of blood and air. In short, a less efficient exchange of gases results and this leads to the extreme shortness of breath characteristic of emphysema. A causal relationship between cigarette smoking and emphysema has not been established. The incidence of emphysema among heavy smokers leaves little doubt that a cause and effect relationship exists between the two.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. Circulatory system a. Pulse	Nicotine increases the rate of heartbeat and prevents the heart from receiving sufficient rest between contractions.	Demonstrate proper way of taking pulse. Have students suggest factors which affect the pulse rate. Perhaps parents who smoke will agree to be subjects in an attempt to determine the effects of smoking on the heart rate and hence, pulse rate. Your students should be aware of other factors which influence pulse rate and should attempt to eliminate these variables so as to more accurately determine how smoking affects pulse rate.	As a rule, smoking stimulates the heart rate. Although the general irritating effect of tobacco may be a factor in causing the heart to beat faster, most evidence points to nicotine as the substance most responsible for the increased rate. A smokers heart beat may increase 15-25 beats per minute for 10-20 minutes after smoking ends. This tends to lessen the amount of rest received by the heart.
b. Blood pressure	Blood pressure increases during and after smoking. Some medical opinion suggests that heavy smoking could cause a constant elevation of one's blood pressure, a condition that might lead to organic damage to the vascular system.		Studies invariably show an elevation of blood pressure during and after smoking. In some individuals the effects may last as long as one hour after smoking the cigarette. If smoking were continuous, the elevation in blood pressure might be permanent and cause organic damage to the blood vessels.
c. Peripheral circulation	Small blood vessels in the toes and fingers are constricted by the action of tobacco. Some medical authorities recognize that this may interfere substantially with the supply of oxygen to these parts of the body.	Demonstrate the effect of constriction on the flow of water through rubber tubing. Simply compress the tubing with your hand or squeeze it together with the fingers.	Peripheral blood vessels constrict during smoking, causing the temperature in the fingers and toes to decrease as much as 6°. Whether the temperature decrease persists long enough to interfere with the amount of blood needed by the extremities is still unclear.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
d. Coronary circulation	Evidence about the effect of smoking on coronary circulation is inconclusive at this point.	Using a model of the human heart, or anatomy and physiology charts, show your students the location of the coronary blood vessels. Discuss the special purpose of this system.	The coronary vessels supply the heart itself with blood and nutrient materials. Evidence of the effects of smoking on coronary circulation is conflicting. Animal experiments have suggested that, in general, small amounts of nicotine increase coronary flow, while large amounts cause constriction of coronary vessels. Recent experiments have shown that cigarette smoking either increases or has little effect on coronary circulation.
	It has been established that cigarette smokers have a substantially higher death rate from coronary artery disease than do nonsmokers.	Suggest that students ask their family physicians how they feel about a coronary patient's desire to continue smoking. Do they allow them to smoke? Why? Using the Surgeon General's Report for data, have class prepare graphs comparing heart disease rates among smokers and nonsmokers.	Heart disease is the most common cause of death in the United States. The death rate from coronary heart disease is greater among smokers than nonsmokers. The Surgeon General's Report on Smoking and Health states that coronary artery disease is the chief contributor to the excess number of deaths of cigarette smokers over nonsmokers, with lung cancer in second place. Coronary artery disease accounts for approximately 45% of the excessive deaths among cigarette smokers, whereas lung cancer accounts for approximately 16%. Although a causal relationship between smoking and coronary artery disease has not been established, over twice as many deaths among smokers are caused by coronary artery disease than are caused by lung cancer.
	One definite thing that an individual can do to avoid premature death from coronary artery disease or lung cancer is to avoid starting the smoking habit or, if he already smokes, to greatly reduce the amount he smokes, or stop altogether.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Men who stop smoking have a lower death rate from coronary artery disease than those who continue smoking.
3. Digestive system			
a. Appetite	Smoking tends to reduce the appetite, especially if one smokes before eating a meal.		Following the smoking of a cigarette, gastric hunger contractions may be temporarily inhibited for a period of up to one hour.
	The increased appetite which may result from stopping smoking could result in increased weight. If one is interested in his health he will not rationalize his situation and resume smoking.	The numbing effect of tobacco on taste buds may be compared with the effect of extreme cold on taste buds. Apply an ice cube to the tongue of one of your students and determine his ability to taste sweet, sour, bitter,and salty substances. How does this affect digestion?	Nicotine acts on the adrenals temporarily elevating blood-sugar level, resulting in a possible relief from fatigue and a decrease in appetite.
	The senses of taste and smell are usually less sensitive in smokers, due to the numbing effect of tobacco on sensory endings in the nose and throat.		Smoking also tends to dull the senses of taste and smell and this affects one's appetite.
b. Salivation			The irritants in tobacco smoke appear to increase the flow of saliva.
c. Gastric activity	Substances in tobacco smoke cause an increase in the flow of gastric secretions which irritate ulcers.		The saliva which absorbs tars and nicotine may be swallowed and produce an irritation to the gastric lining (mucosa) and thus increase the secretion of hydrochloric acid.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	There is no conclusive evidence that smoking will cause ulcers.	Discuss the question - "If there is no conclusive evidence that smoking causes ulcers, why is it that the majority of ulcer sufferers are smokers?"	Smoking on an already empty stomach might aggravate an already-existent stomach ulcer. There is, however, no conclusive evidence that smoking will cause an ulcer.
4. Nervous system	There is no conclusive information on the effects of smoking on the nervous system.		Many researchers have studied the effects of smoking on the intellect, but the results are vague and contradictory.
5. Physical performance a. Effects on respiratory system	Smoking interferes with the individual's ability to enjoy an optimal level of physical fitness.	After meeting with the members of the junior high school and senior high school coaching staff, ask two of your male students to report to the class on the school's smoking policy relative to participation in interscholastic athletics.	Considerable evidence suggests that smoking decreases one's ability to engage optimally in physical activities. The AMA Committee on the Medical Aspects of Sports states - "...acute impairment of pulmonary function in young smokers has been demonstrated. Significant decreases in maximum breathing capacity, which is most important to athletes, have also been disclosed, probably due largely to obstruction in respiratory inflow. Efficient utilization of oxygen in the body is greatly hampered by decreases in its diffusibility in smokers. There is no longer any room for doubt that athletes should not smoke."
b. Effects on circulatory system	There is no longer any reason to doubt the belief that athletes should not smoke.	F #3 (Tobacco and the Human Body) may be used to review material in this unit.	Smoking decreases the amount of blood and oxygen available to our muscles. Buerger's disease, usually found in smokers, is an impaired circulation in lower extremities which is complicated by smoking.

SMOKING AND HEALTH

STUDENT REFERENCES (GRADES 4-12)*

Pamphlets

American Cancer Society (local unit). New York.
Answering the most-often-asked questions about cigarette smoking.
I'll choose the high road.
Shall I smoke?
To smoke or not to smoke.
Where there's smoke.
Your health and cigarettes.

New York State Tuberculosis and Respiratory Disease Association, Inc. New York.
Here is the evidence - you be the judge.

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Freckle-faced Jimmy.

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SMOKING AND HEALTH

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SMOKING AND HEALTH

SUGGESTED AUDIOVISUAL AIDS

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I'll choose the high road. American Cancer Society, New York State Division, 40 Franklin Street, Rochester, New York 14604. (Local ACS unit.)

Life in Jamestown. Curriculum Materials Corporation, 1318 Vine Street, Philadelphia 7, Pennsylvania.

Nature's filter. American Temperance Society, 6840 Eastern Avenue, N.W., Washington 12, D. C.

To smoke or not to smoke. American Cancer Society, New York State Division, 40 Franklin Street, Rochester, New York 14604. (Local ACS unit.)

What about smoking. (with 33 1/3 record). Family Films, Inc., 5823 Santa Monica Boulevard, Hollywood 38, California.

Films

Alcohol and tobacco: what they do to our bodies. Coronet Films, 16 minutes, black and white.

Backbreaking leaf. Syracuse University Film Library, 30 minutes.

Breaking the habit. American Cancer Society, 6 minutes, color.

Cigarama. Sterling Movies, 375 Park Avenue, New York 22, New York, 12 minutes, black and white.

The huffless puffless dragon. New York State Tuberculosis and Respiratory Disease Association, 105 East 22nd Street, New York, New York 10010, 9 minutes, color. (Inquire of local unit.)

Is smoking worth it? American Cancer Society, 19 minutes, black and white.

Point of view. New York State Tuberculosis and Respiratory Disease Association, 105 East 22nd Street, New York, New York 10010. (Inquire of local unit.)

Films (cont'd)

Smoking and lung cancer. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 29 minutes, black and white.

Smoking and you. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 11 minutes, color.

Smoking anyone? Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 25 minutes, color.

Tobacco and the human body. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 15 minutes, black and white.

Tobacco valley. Shade Tobacco Company, River Street, Windsor, Connecticut 06095, 27 minutes.

Who me? Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 14 minutes, color.

SMOKING AND HEALTH

SOURCES OF ADDITIONAL MATERIALS AND INFORMATION

American Cancer Society, New York State Division (or local unit), 1010 James Street, Syracuse, New York 13203

National Clearing House of Smoking and Health, 4040 N. Fairfax Drive, Arlington, Virginia 12203

New York State Committee on Hazards of Smoking, (an inter-agency committee), Miss Dolores Floss, Coordinator; c/o New York State Department of Health, 855 Central Avenue, Albany, New York 12206

New York State Health Department, James J. Quinliven, M.D., Director of Public Health Education, Albany, New York 12208

____ Miss Dorothy Nelson, Program Director - Smoking Education, 855 Central Avenue, Albany, New York 12206

____ Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York

New York State Heart Assembly, Inc., 3 West 29th Street, New York, New York

New York State Tuberculosis and Respiratory Disease Association, Inc., 105 East 22nd Street, New York, New York 10010

U. S. Children's Bureau, Division of Reports, Washington, D. C. 20201

U. S. Public Health Service, Office of Information and Publication, Public Inquiries Branch, Washington, D. C. 20201

EDO 43064

PROTOTYPE
CURRICULUM MATERIALS
FOR THE ELEMENTARY
AND SECONDARY GRADES

HEALTH

STRAND II
SOCIOLOGICAL HEALTH PROBLEMS

CG 005 854

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Grades 10, 11, and 12

THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTMENT
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HEALTH CURRICULUM MATERIALS

FOR GRADES 10,11,12

Strand II, Sociological Health Problems
Alcohol
Drugs
Smoking

1970 Reprint

The University of the State of New York/The State Education Department
Curriculum Development Center/Albany 12224
1967

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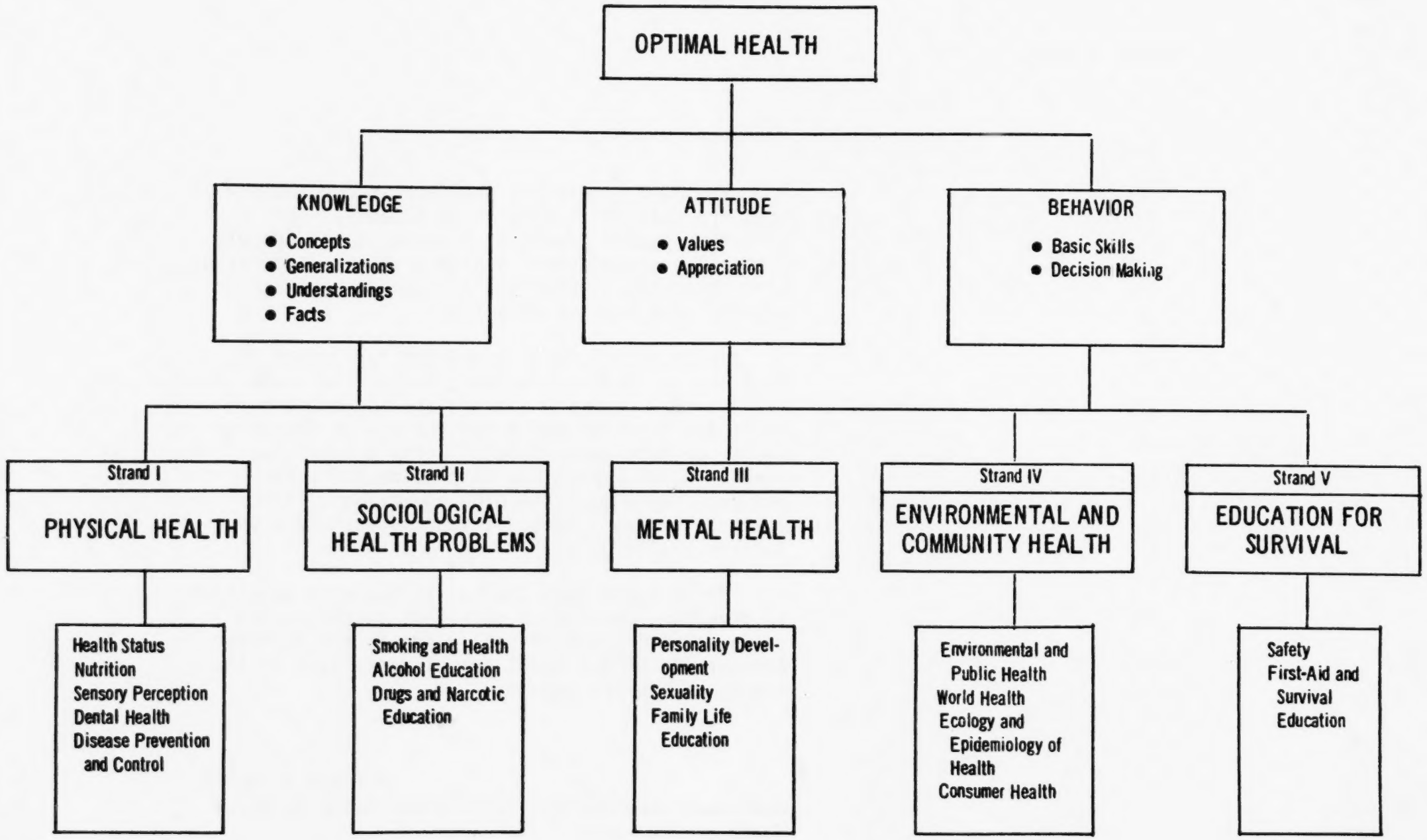
Prefatory Note

The ever increasing problems in our society that are related to drug abuse demand a more effective health education program in all schools. Continuing sociological health problems associated with cigarette smoking and the use of beverage alcohol also require attention.

These materials — developed for Strand II, Sociological Health Problems, for use in Grades 10, 11, and 12 -- contain appropriate suggestions for designing teaching units for the health education course at this grade level. Local schools may need to make adaptations to provide for acute problems, especially in drug education. It is evident, however, that all schools must face up to this challenge.

It is hoped that the health concepts developed in these new curriculum materials in the health sciences will prove of real value to the children and parents of our local school districts, to the state, and to the nation.

Bernard F. Haake
Assistant Commissioner for Instructional Services (General Education)


OPTIMAL HEALTH
KNOWLEDGE
Concepts
Generalizations
Understandings
Facts
ATTITUDE
Values
Appreciation
BEHAVIOR
Basic Skills
Decision Making
Strand I
PHYSICAL HEALTH
Health Status
Nutrition
Sensory Perception
Dental Health
Disease Prevention and Control
Strand II
SOCIOLOGICAL HEALTH PROBLEMS
Smoking and Health
Alcohol Education
Drugs and Narcotic Education
Strand III
MENTAL HEALTH
Personality Development
Sexuality
Family Life Education
Strand IV
ENVIRONMENTAL AND COMMUNITY HEALTH
Environmental and Public Health
World Health
Ecology and Epidemiology of Health
Consumer Health
Strand V
EDUCATION FOR SURVIVAL
Safety
First-Aid and Survival Education

FOREWORD

This publication contains three of the topics for Strand II, Sociological Health Problems, which have been prepared as part of the K-12 health syllabus revision project. The material included herein is intended for use in grades 7, 8, and 9. Similar publications are available for these same three areas — alcohol education, drugs and narcotics, and smoking — for use in grades 4, 5, and 6 and in grades 10, 11, and 12. The health coordinator in a school system should make use of all three publications in planning a local K-12 program. Other materials to complete this strand and for the other strands shown in the chart on page iv are in various stages of planning or development and will be distributed as they are completed.

The curriculum materials presented in this prototype strand have been prepared in response to an increased public interest in the health sciences. Problems of air and water contamination, the misuse of drugs, the habituation tendencies of alcohol and tobacco, and the diet fad inspired use of food adulterants, have led knowledgeable people to demand increased health instruction in the schools of New York State.

The development of these curriculum materials as part of a K-12 program should lead to a well articulated educational program in health. The format also makes it possible for full time health teachers, physical education teachers, science teachers, broad spectrum elementary teachers, school nurse teachers, and dental hygiene teachers to adapt special areas to their own programs.

The first drafts of the manuscripts for the three parts of this strand were written by a team at the State University College at Cortland under the leadership of Dr. John S. Sinacore, Professor of Health Education. Dr. Sinacore prepared the section on drugs and narcotics; Lawrence B. O'Reilly, Assistant Professor of Health Education, wrote the section on smoking; and Leonard T. Gath, Associate Professor of Health Education, wrote the section on alcohol. Eugene V. Bowers, Professor of Health Education, State University College at Brockport; Dr. James J. Quinlivan, Director, Office of Public Health Education and Miss Rita Pacheco, Supervising Public Health Educator, of the New York State Department of Health; John R. Butler, Director, Bureau of Alcoholism, and Mary M. Burgess, Supervisor of Alcohol Education, New York State Department of Mental Hygiene; reviewed the manuscript and made valuable suggestions.

John L. House, formerly Assistant in Health Education, coordinated the writing-editing efforts and established the developmental pattern in association with James A. Howarth, Associate in Elementary Curriculum, and Robert F. Zimmerman, Associate in Secondary Curriculum.

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INTRODUCTION

Optimal health is dependent upon the interaction of knowledge, attitude, and behavior. The content of this health curriculum guide has been established as a five-strand approach to the concepts, generalizations, understandings, and facts; the values and applications; the basic skills; and the decision-making processes that are the keys to good health. The five-strand approach provides maximum flexibility for program development in the schools, and makes it possible to utilize the services of writer-consultants who are experts in their fields.

At the elementary school level, pupils should experience basic instruction in each of the major strands prior to the completion of the 6th grade. Elementary school health education experiences have been traditionally based upon the concept of sequential organization of the total spectrum of the health curriculum content in each grade with a gradual increase of the depth and scope of instruction as the pupil progresses through the grades.

The depth exploration of specific health areas by grade does not minimize the need to develop information from related health topics as a reinforcement to developing knowledges and concepts. The teacher will probably find that health problems which arise will require the addition of health information from related areas.

At the junior high school level individual strands might be developed in depth or a combination of strands may be developed in accord with local conditions and the developmental needs or special interests of the pupils.

A general health education course based upon content from all of the strands could constitute the initial senior high school pupil health education experience. Following this generalized overview, special interest depth studies of specific strands on an elective basis might be developed to meet specific student interests.

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A L C O H O L E D U C A T I O N

An Experimental Unit for Grades 10,11,12

INTRODUCTION TO ALCOHOL EDUCATION

Grades 10, 11, 12

Alcohol education shares the aims and objectives of all education.

OUTCOMES:

1. To gain objective, unbiased, scientific information concerning alcohol, its uses, and its effects on the individual and society.

2. To seek accurate information so that they can explore their own feelings and attitudes about drinking.

3. To develop a sense of responsibility for one's individual welfare and that of others in the proper use of alcohol.

4. To develop insight concerning their behavior in social situations involving the use of alcoholic beverages.

5. To develop awareness of the medical problem caused by, or associated with, the misuse of alcohol.

ALCOHOL EDUCATION

(Teaching Units for Grades Four through Twelve)

INTERMEDIATE GRADES
(grades 4, 5, & 6)

I. The Nature of Alcohol

II. The Use of Alcohol in the Early Days in America

III. Alcohol in the Human Body

IV. Elimination

V. Alcohol and Problems

VI. Alcohol and the Family

JUNIOR HIGH SCHOOL
(grades 7, 8, & 9)

I. The Adolescent and Alcohol

II. The Use of Alcohol in the United States

III. The Social Problems Associated with Beverage Alcohol

IV. Legislative Control and Economics of Alcohol

SENIOR HIGH SCHOOL
(grades 10, 11, & 12)

I. Alcohol and Mental Health

II. Physiological Effects of Alcohol

III. The Psychological Effects of Alcohol

IV. Alcoholism - A Medical Problem

V. Other Disease Forms Associated with Alcoholism

VI. Rehabilitation and Treatment

VII. Research Agencies and Prevention of Alcoholism

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Alcohol and Mental Health	A mentally healthy person does not attempt to escape reality by the excessive use of alcohol.	Discussion Topics and Questions: Have a class discussion on the emotionally mature and immature individual. Note characteristics of each. List some criteria for emotional maturity. Why do some people drink alcohol when they know they are becoming alcoholic? List ways of reducing tension without the use of alcohol. Filmstrip: Alcohol and Personality (68 frames)	There has never been a time in history when man has had no fears or threats to his security. Today as in the past, mature individuals accept responsibility, recognize strengths and weaknesses, and face day-to-day problems realistically. Satisfactory relationships are formed in social, business, and moral accomplishments. The mentally healthy individual sets realistic goals and is secure in his attempt to progress toward these goals. Mentally healthy individuals can satisfy their basic needs without alcohol and realize that interpersonal relationships are important to sound adjustment. By early high school, students will have developed a sense of identity. Some are seeking status and approval and may be trying to overcome shyness and timidity.
	Varied professionals as well as state and local agencies are available to help people with emotional problems.	List the pros and cons of drinking by teen-agers. Why do some teen-agers think they must drink to be popular? Why are teen-agers affected by alcohol more than adults? What state and local agencies are available to help the problem drinker?	
II. Physiological Effects of Alcohol		Film: Alcohol and the Human Body.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
A. Stomach	It is known that alcohol affects the body.		Stomach: Alcohol increases the flow of digestive fluids in the stomach. (If a person is suffering with stomach ulcers, the irritation would be harmful.) Irritation of the stomach lining with accompanying gastritis and vomiting can occur if alcohol is taken in large doses over a short period of time.
	Some parts of the body may be more susceptible, and some diseases have a high association with the use of alcohol.	Draw and label the organs affected by alcohol in the human body and give the effect on each.	
B. Kidneys		Discussion Questions: Why does a person drinking on an empty stomach "feel" alcohol quicker and to a greater degree than one who has eaten?	Increased urination is caused by alcohol reacting on the pituitary gland which secretes a hormone that controls action of the kidney.
C. Glands		What foods slow the absorption of alcohol in the system?	Alcohol cannot damage sex glands because it is in dilute form.
D. Liver		Why can most men drink more than most women?	Alcohol is modified by the liver. The enzyme dehydrogenase converts alcohol to acetaldehyde and then to acetic acid.
		Would most doctors allow patients with TB, cancer, liver ailments, or mental illness to drink moderately? Why?	The liver may become swollen in severe intoxication and may be tender. Cirrhosis is six times as prevalent in heavy drinkers as in the general population.
		How would excessive alcohol affect your stomach, kidneys, pancreas, liver, heart, circulation, and reasoning ability?	Water balance is upset. The H_2O inside cells changes with the intake of fluids or output of urine and sweat. A feeling of thirst develops.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
E. Heart and Circulation	The heart and circulation are affected by alcohol.	How does alcohol affect the heart rate and circulation?	Distilled spirits may make the heart beat faster and cause the skin to feel warm. The faster heart beat increases blood flow and the effect may be to raise the blood pressure for a short time before it falls due to sedation. The eyes may become "bloodshot" by an increase in blood flow. Moderate amounts of alcohol do <u>not</u> cause high blood pressure, heart disease, or arteriosclerosis.
F. Brain and Senses	Alcohol affects the brain and its normal functions.	What effect does alcohol have on doing a complex problem?	Alcohol's reaction on the central nervous system seems to follow a regularly descending pattern, the most intricate structure of the brain is affected first, cortex, then the cerebellum, spinal cord, and medulla oblongata. The central nervous system which controls judgment, self criticism, and socially acquired inhibitions is affected first. The concentration of alcohol in the blood bears a direct relation to that in the brain, the examination of the blood offers an accurate index of the brain's alcohol content. Such central nervous system functions as judgment, self criticism, and inhibition control are the first to be lost during the progression of intoxication.

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			Nerve impulses to muscles are interfered with--handwriting becomes difficult, speech and muscular coordination impaired. Visual acuity is next to go, diplopia (double vision) is common. Sensitivity to light is lost. Taste and smell are also impaired.
III. The Psychological Effects of Alcohol	Some people use alcohol to escape frustrating situations. A good self-image helps the individual maintain an acceptable pattern of alcohol use.	Read current events from clippings related to the problem of alcohol.	Alcohol is a depressant; it dulls the attention, removes inhibitions, weakens the will power, alters judgment, and distorts sensibilities. The immature individual finds alcohol appealing; usually, the more immature the individual, the greater the alcohol appeals. He is insecure, considers himself a failure, and uses alcohol to bolster his ego. He does not face problems, but with alcohol he day-dreams or lets the imagination take over. He has to make no decisions, and for him responsibility does not exist. He can escape to childhood and boast of his powers. He may rationalize to justify his actions and alcohol seems to make him feel happier.
		Interview a specialist from the health department and find out what local services are available for the person with an alcohol problem.	
IV. Alcoholism - A Medical Problem			
A. Definition	Alcoholism is difficult to define.	Research: What is the World Health Organization doing about alcoholism? World Health Magazine, January 1966 discusses this in detail.	Alcohol in moderate amounts may reduce some anxieties and fears.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Review text materials on alcoholism and the many definitions of the illness.	"Any form of drinking which in its extent goes beyond the traditional and customary dietary use or the ordinary compliance with the social drinking customs of the whole community concerned, irrespective of the etiological factors leading to such behavior and irrespective also of the extent to which such etiological factors are dependent upon heredity condition or acquired physiopathological and metabolic influences." (World Health Organization)
B. Physical Conditions Associated with Alcoholism	Excessive use of alcohol may create detrimental physical conditions.	Discussion Questions: Why are most alcoholics malnourished? How is poor nutrition related to the excessive use of alcohol?	
C. Pellagra	Pellagra is on the decrease in the United States and is rare in some areas.	Discuss class reports on "Deficiency Diseases."	Pellagra (Niacin Deficiency). This condition is due to deficiency of niacinamide. The symptoms are: nervous manifestations, weakness, vertigo, insomnia, skin eruptions, severe burning sensation in mouth, and the tongue bright red and denuded. Pellagra may occur in semitropical areas, such as the southern United States. It is more prevalent when food supply is limited in variety and low in animal protein. There is a great reduction in the death

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			rate today because of effective hospital treatment. May be caused by substitution of alcoholic drinks for food and a deficiency of the "B" vitamins. These changes occur also: depression, fear, confusion, impaired memory, skin lesions, gastrointestinal disturbances, neurologic symptoms. Skin looks like a severe sunburn, then gets rough and scaly. Gastrointestinal -- alternate constipation and diarrhea. The mouth and tongue may be irritated. Neurologic effect -- victims are lethargic.
		Discuss the problem of physical condition related to excessive use of alcohol.	
D. Cirrhosis of the Liver	The liver is affected by the misuse of alcohol. Experts on liver disease need to learn more about how the many hundreds of liver enzymes function in the body.	What is cirrhosis of the liver? Why does it occur in alcoholics? How does the liver break down alcohol?	Cirrhosis of the liver may be caused by malnutrition and may be aggravated by alcohol. Experimentally, the condition can be produced by a diet deficient in choline or an amino acid (methionine): Choline is a lipotropic agent and, if lacking, fat accumulates in the liver followed by an increase of connective tissue. Serious impairment of liver function ensues. Cirrhosis of the liver is eight times more prevalent in alcoholics than in the general population.

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E. Pneumonia	Other physical conditions and diseases are prevalent in both the heavy drinker and the alcoholic.	Class discussion: Why should a person with pneumonia or tuberculosis refrain from heavy drinking?	The heavy drinker and alcoholic is highly susceptible to pneumonia because of poor general health. Pneumonia occurs in alcoholics because resistance is low. It is caused by poor nutrition and lack of good health practices. The alcoholic does not take adequate precautions during extreme weather, etc.
F. Tuberculosis	Many physical conditions are associated with chronic alcoholism.		The alcoholic patient has a TB rate 31 times the general population.
G. Acute Pancreatitis	Organs of the body are sometimes irritated by alcohol.	Class discussion: What effect could excessive use of alcohol have on the pancreas?	Inflammation of pancreas--overindulgence in food or alcohol may produce pancreatitis. Necrosis of pancreatic tissues with hemorrhage may result. Nausea or vomiting may result, and sometimes jaundice.
H. Polyneuritis or Polyneuropathy	Alcohol affects the nervous system.		Polyneuritis involves many nerves and affects the peripheral nervous system. Weakness, numbness, partial paralysis, and pain in the legs are symptoms. Motor, reflex, and sensory reactions are lost in most cases. Recovery is very slow. Vitamin "B" is used to relieve symptoms. It may affect walking for a year or more.
V. Other Disease Forms Associated with Alcoholism A. Simple Chronic Alcoholic Deterioration	Many psychological problems and conditions result from the misuse of alcohol.	Film: <u>Alcoholism</u> Have reports made on outside reading of accounts and experiences of alcoholics.	Many people who consume alcohol over a long period suffer personality disintegration ranging from impairment of the emotions and control to noticeable dementia.

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		Have a speaker from a state mental hospital discuss alcohol and its relationship to mental health.	The toxic effects are important, but the real damage is caused by avitaminosis. In some cases, a chronic nervous degeneration takes place. The cortex of the frontal lobes may show progressive atrophy.
	There are specific signs and symptoms of alcoholism.	Report on some of the danger signs of alcoholism. Write for materials from National Institute of Mental Health, U.S. Public Health Service, Bureau of Alcoholism, Department of Mental Hygiene.	A person with the symptoms of alcoholism has blackouts, hides drinks, cannot overcome the desire to drink, sneaks drinks, will drink anything to get intoxicated. His behavioral changes are noticeable. He is frequently intoxicated days at a time and he loses time from work because of alcohol. He frequently alibis about drinking.
B. Pathologic Intoxication	The psychological disease forms associated with the misuse of beverage alcohol may cause pathological intoxication.		The onset of pathologic intoxication is sudden. The person's consciousness is impaired. He is confused, disoriented, suffers from illusions; hallucinations and delusions are present. He exaggerates activity, is impulsive and aggressive to the point of destructiveness. Emotional disturbances are profound and may consist of rage, depression, and sometimes attempted suicide. After disorder, sleep occurs. On awakening, there is amnesia for the period. Epilepsy may be released by alcohol in predisposed persons.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
C. Delirium Tremens	Delirium tremens can be a very serious problem with the possibility of death.	Discussion Questions: What is delirium tremens? Is it serious? Why? Can it be fatal? What causes DTs? How does the person act? Does he have loss of memory? Have the students form a crossword puzzle using the related facts--vocabulary they have been given in connection with the unit. Examples: depressant fermentation pellagra delirium tremens liver cirrhosis tranquilizer alcoholism metabolism Class discussion of pamphlet: Treat Delirium Tremens - Science Newsletter - February 12, 1965.	Delirium tremens is an acute psychosis that may develop from overuse of alcohol. Some psychiatrists think it may be brought on by withdrawal from alcohol. It may be a metabolic disturbance brought on by liver malfunction, disturbed water balance, suboxidation of the brain, and nutritional deficiency. DTs usually occur after 30 years of age. The delirium is sometimes preceded by restlessness, irritability, disturbed sleep with terrifying dreams. Visual hallucinations are common--spots may appear, and strange shapes are imagined, terror is common. Tactile hallucinations and olfactory hallucinations are also present. The mood may be one of fear and terror. Sleep is impossible, consciousness is clouded. The person has tremor, is very tense; pulse is rapid but weak; temperature is elevated. The skin is moist, and perspiration is apparent. Delirium tremens usually lasts from 4 to 5 days -- or death may occur from heart failure or pneumonia.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
D. Korsakoff's Psychosis (syndrome)	Nutritional deficiencies can be associated with psychological problems.	Library Assignment: List the many nutritional deficiencies caused by or associated with alcoholism. Do you think each one would affect your health? Why?	Korsakoff's Syndrome is characterized by memory defect, amnesia, disorientation, and falsification of memory. There is some evidence that these symptoms do respond to thiamine. Damage to the nervous system may be structural rather than biochemical and thiamine deficiency for a long time may be a responsible factor.
E. Alcoholic Paranoid Trends	Alcoholism is a leading public health problem.	Look up and list the leading public health problems in the U.S.A. today.	Alcoholic paranoid trends may develop after prolonged use of alcohol. Sometimes voices are imagined, and they urge the person to do something drastic. He is in constant fear and may commit suicide. Sometimes the person will appeal for help or arm himself. This differs from DTs as the person's consciousness remains clear and many times schizophrenia may develop.
F. Wernicke's Syndrome	Cause of Wernicke's Syndrome is faulty metabolism.	Discussion Questions: What causes Wernicke's Syndrome? Is it serious? Why or why not? Is it a metabolic disease? Does it affect the vision?	Wernicke's Syndrome was described in 1881 as **pseudoophthalmoplegia** (paralysis of eye muscles), apathy, ataxia, memory loss, confabulation, and coma. Wernicke's Syndrome is associated with thiamine deficiency and niacin deficiency. Sometimes it is referred to as Wernicke's "encephalitis." The person usually goes through delirium.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			The condition is seen in chronic alcoholics. The person may feel weak, easily fatigued, irritable, quarrelsome, forgetful, and depressed.
VI. Rehabilitation and Treatment	Alcoholism is a serious problem and requires combined efforts.		
A. Nutrition	Vitamins and good nutrition are used in the treatment of the alcoholic.		A change in diet to supply nutrients helps in the treatment so that regeneration of some liver tissue may take place. Nutritional elements can be given intravenously. Ascorbic acid and foods rich in Vitamin "B" (milk, eggs, fruit, and meat) should be eaten. Niacin and multiple vitamins are given. Sometimes thiamine chloride is added to the diet each day.
B. Psychotherapy	Many types of psychotherapy are used as treatments of choice for the alcoholic.	Define and tell how each may be used in the treatment of the alcoholic: Hypnosis Psychiatry Psychoanalysis Group therapy Psychotherapy	The approach to the cure and rehabilitation of the alcoholic must be multidimensional and multi-disciplinary since the original cause is usually multifactorial. Group psychotherapy is being used more often. The alcoholic may accept treatment in a group setting.

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C. Drug Therapy	Drugs are being used increasingly in the treatment of alcoholism.	Requests sent to drug companies may obtain information on drugs used in the treatment of alcoholics.	A new chemical is under study--citrated calcium carbamite, which affects the person like disulfiram, but does not have a lasting effect. Tranquilizers are sometimes used to relax the patient. Chlorpromazine is used to relieve symptoms of restlessness.
		Teachers may wish to visit a mental hospital which has an alcoholic ward: i.e. Central Islip State Hospital, Willard State Hospital, Rochester State Hospital, etc.	Meprobamate is given to control vomiting, it relaxes the patient and reduces anxiety and tensions. Insulin is sometimes used to speed up the metabolism of alcohol; but insulin may cause convulsions. Disulfiram or Antabuse is used to treat the alcoholic. It was first noted in 1948 in Europe. Discomfort develops after alcohol is consumed. The discomfort may be excretion of acetaldehyde. It must be administered prior to drinking. The patient is affected by headache, tachycardia, dizziness, nausea, chest pains, vomiting. He does not care to drink. Halfway house or recovery house organizations came into being around 1950.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Private and public agencies exist to assist the alcoholic in remediation of the condition.		Federal Government V. A. Hospitals U. S. Marine Hospitals National Institute of Mental Health Grants for research, conferences, and demonstration projects Voluntary Organizations The National Council on Alcoholism Professional Organizations A.M.A. Committee on Alcoholism The American Psychiatric Assn. North American Assn. of Alcoholism Program The American Psychological Assn.
E. Alcoholics Anonymous	Psychological - emotional treatment and rehabilitation are available.	Film: I Am an Alcoholic Study the various forms of treatment for problem drinkers. What are the limitations of each? Have a selected speaker from A.A. address the class.	Alcoholics Anonymous Established in 1935 in Akron, Ohio, the A.A. program is social-religious and uses a group therapy approach. It gives the person a sense of belonging. Group meetings are held frequently in churches and allow alcoholics to feel they are accepted. It should be emphasized that this information is listed as a sample of what one organization does. Other methods may be equally effective.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Class discussion: Is A.A. primarily a religious program? Why or why not? What success has this organization had?	Twelve Steps of Alcoholics Anonymous 1. We admitted that we were powerless over alcohol -- that our lives became unmanageable. 2. Came to believe that a Power greater than ourselves could restore us to sanity. 3. Made a decision to turn our wills and our lives over to the care of God as we understood Him. 4. Made a searching and fearless moral inventory of ourselves. 5. Admitted to God, to ourselves, and to other human beings the exact nature of our wrongs. 6. Were entirely ready to have God remove all these defects of character. 7. Humbly asked Him to remove our shortcomings. 8. Made a list of all persons we had harmed and became willing to make amends to them all. 9. Made direct amends to such people whenever possible, except when to do so would injure them or others.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			10. Continued to take personal inventory and when we were wrong, promptly admitted it. 11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
		Evaluate the many treatment methods used in the rehabilitation of the alcoholic. What are some limitations of each?	12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs.
1. Al-Anon	New groups are expanding to assist relatives of alcoholics.		Al-Anon Family groups-wives of alcoholics-functions like A.A. to lend mutual support and discuss adjustment problems.
2. Alateen			Alateen Children of A.A. members meeting to gain an understanding of the illness and how alcohol affects the body.
F. Facilities			In New York State, State hospitals now have inpatient wards and outpatient clinics for the treatment of alcoholics. New York State's "Alcoholism Program," a booklet published by the Department of Mental Hygiene, may be a valuable resource for class discussion.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
G. Personnel			Social workers, clergymen, medical doctors, nurses find it difficult to work with alcoholics. Professional schools offer little training in the field. New York State is making strong efforts in the field of research relative to the causes of alcoholism.
VII. Research Agencies and Prevention of Alcoholism	Develop awareness that research is being done by many individuals and organizations	Discussion Questions: What causes alcoholism? Why does one heavy drinker become an alcoholic and another does not? What part does heredity play in alcoholism? How much of a role do ethnic backgrounds play in alcoholism? How do socioeconomic backgrounds contribute to the excessive use of alcohol? What can we expect of new drug therapy?	
A. Agencies	Help is available.	Outline the function of the many agencies in the field of alcoholic rehabilitation. Discussion: Topic - People can now get help for a drinking problem.	The Federal Government provides treatment for veterans and members of the armed forces. National Institutes of Health--research and research projects.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Department of Health, Education, and Welfare -- oversee and administer grants for educational projects, conferences, demonstration programs.
B. Voluntary and Official Agencies	Voluntary and official agencies offer service, education and help.	Visit an agency in your community and inquire as to their function, duties, and responsibilities.	Rutgers School of Alcohol Studies--Publications, education, research. State Program -- The New York State Department of Mental Hygiene program involves both inpatient and and outpatient treatment centers, community information, and education services, research and training. The National Council on Alcoholism--a voluntary health agency, main function is education of general public; also to remove stigma, promote the concepts of alcoholism as a disease and expand treatment facilities. Professional Organizations-- AMA The Committee on Alcoholism keeps physicians informed. American Psychiatric Association American Psychological Association A.A. A fellowship of alcoholics, supplies information, distributes literature. Salvation Army -- spiritual aid, food and lodging. This organization was a pioneer on this field.
	Scientists working for official agencies like National Institutes of Health are conducting research on the problems associated with alcohol consumption.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
C. Prevention	Educational programs need to be expanded.	Comment on the educational programs in your community developed to help prevent alcoholism. Where may a person seek help in your community?	The cause of alcoholism is not known--it may be metabolic failure, psychologically caused, sociologically or psychologically oriented. We know it is an illness so it can be treated using many techniques. Total prevention is not possible today because of meager knowledge in this area. Educational programs and knowing the facts can help prevent the misuse of alcohol.
D. Research	Many areas of research are under exploration.	Cite some of the research noted in library readings.	What causes a person to crave alcohol needs to be explored. Why does one person become a victim of alcohol and another does not? There is no known single cause of alcoholism.
	Attitudes are difficult to research.		There is a need to study the attitudes toward the use of alcohol.
	Studies need to be done on home, industrial, and traffic accidents where alcohol is a factor.		What part do hormones play in the treatment of the alcoholic? Hormones seem to stimulate enzyme action, and the enzyme uses up the alcohol. The area needs additional research. How many people die in accidents related to the use of alcohol?

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Cirrhosis is a complicated medical problem.		Why do some of the heaviest drinkers have good livers and others have cirrhosis? Some liver cells are damaged by repeated exposure to alcohol, but some unknown factors are missing. This is under study.
	Alcohol disturbs cell functions.		What biochemical changes occur in the brain of an alcoholic? It appears as though cortical cells show atrophy and something happens to the cytoplasm. Can alcohol harm the fetus? This area needs research. The mother's health may be run down, yet the child may not be harmed.
	Cirrhosis may be associated with the consumption of alcohol but is also a factor in hepatitis.		Do glandular changes occur with cirrhosis of the liver? Yes, studies show some males may develop abnormalities because of hormonal action.
	In summary--research is needed in the following: 1. pharmacology 2. psychology 3. attitudes fostered by cultural background 4. attitudes fostered by social peers 5. physiological differences in individuals		Research is being done in the field of mental health and the misuse of alcohol. Some researchers believe alcoholism begins in the cradle--over-mothering, insecurity, and a means of escape offered by alcohol are responsible for many problems associated with the use of alcohol. Guilt feeling develops in the alcoholic also.

ALCOHOL EDUCATION

Supplementary Information

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ALCOHOL EDUCATION

Suggested Audiovisual Aids

Films

Alcohol in the human body. Sid Davis Productions, 14 minutes, color.

Alcohol is dynamite. Sid Davis Productions, 11 minutes, black and white.

The alcoholic criminal. N.E.T. (Indiana University), 30 minutes.

Alcoholism. E. B. F. State Health Department, 22 minutes.

The bold faces the facts. WCTU, 1730 Chicago Avenue, Evanston, Illinois, 13 minutes.

The bottle and the throttle. Sid Davis Productions, 10 minutes, color.

The brain is the reason. WCTU, 1730 Chicago Avenue, Evanston, Illinois, 20 minutes.

Family affair. WCTU (Colorado University), 10 minutes.

Friendly enemy. WCTU (Colorado University), 20 minutes.

Highball highway. Charles Cahill Association, 5746 Sunset Blvd., Hollywood, California, 12 minutes.

I am an alcoholic. McGraw-Hill (Brigham Young University), 17 minutes.

It's best to know. Onondaga Council on Alcoholism, Syracuse, New York, 8 minutes, black and white.

The mixer. M.R.A. Mutual Insurance Co., Columbia, Missouri, 10 minutes.

Nightmare of the bold. U. S. Air Force, 8900 Broadway, St. Louis, Missouri, 53 minutes.

None for the road. McGraw-Hill, 16 minutes, black and white.

Out of orbit. M-S-B-A Michigan State Board of Alcoholism, 14 minutes, color.

Problem drinkers. MGH - State Health Department, Film Library, 19 minutes.

Should you drink? McGraw-Hill - University of Illinois, 22 minutes, black and white.

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The silent witness. W.M.S. Merrill Co., Cincinnati, Ohio, 28 minutes.

To your health. N.Y.S. Department of Mental Hygiene, 10 minutes, color.

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New York State's alcoholism program.
Report of the task force on addictions.
Understanding alcoholism.

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The drinking driver. Part I. May 1964.
The drinking driver. Part II. June 1964.
Driving under the influence of alcohol and drugs. 1963.

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Periodical Articles

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"Drinking behavior of delinquent boys." QJSOA. June 1965.

"Hope for alcoholics." Christian Century. February 17, 1965.

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"How teen-agers look at drinking." Senior Scholastic. December 2, 1964.

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"Photos help alcoholics." Science Newsletter. February 20, 1965.

"Pill for alcoholism: metmonilazole." Newsweek. November 15, 1965.

"Problem drinking among American Indians." QJSOA. March 1966.

"Science looks at liquor." Today's Health. February 1963.

"Should you offer teen-agers drinks in your home?" Readers' Digest. April 1965.

"Sometime during your teen years someone is likely to urge you to drink: what will you say? Seventeen. September 1965.

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"Subject unknown: civilization and alcohol." Saturday Review. June 1963.

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D R U G S A N D N A R C O T I C S

An Experimental Unit for Grades 10,11,12

OVERVIEW

There are many ways to leave this world. All people in one manner or another "escape" temporarily through such things as daydreaming, sleep, or alcohol. Others escape permanently through death or irreversible psychotic conditions. Some use drugs as a temporary escape only to find their ensuing addiction to be rather permanent. It is perhaps analogous to the astronaut who leaves his spaceship for a brief venture into space and finds that he cannot return. He is rather ironically "trapped" in the vast regions of outer space. The drug user likewise is "trapped" in his fantasy world never quite returning to a substantive reality. The escape becomes the entrapment.

It would be interesting to discuss and perhaps even argue the moralities and ethics one would associate with one form of escape as compared to another. As educators we need to involve our students in such a discourse along with supplying them with scientifically accurate information with regard to the nature and effects of those substances we are concerned with.

If they make mistakes in the use of drugs, let it not be said that they were not informed and given an opportunity to develop values with regard to their use with a mature, knowledgeable person. "And ye shall know the truth, and the truth shall make you free."

> The term "drug" means articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States or official National Formulary, or any supplement to any of them; articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and articles (other than food) intended to affect the structure or any function of the body of man or other animals; and articles intended for use as a component of any article specified.

DRUGS AND NARCOTICS

(Teaching Units for Grades Four through Twelve)

INTERMEDIATE GRADES
(grades 4, 5, & 6)

I. Early Man's Use of Drugs

II. Modern Drugs and Their Contributions

III. The Use and Misuse of Drugs

JUNIOR HIGH SCHOOL
(grades 7, 8, & 9)

I. The Development of Modern Drugs

II. Prescription Drugs

III. Nonprescription Drugs (Over-the-Counter Drugs)

IV. Safeguarding Drugs and Their Use

V. The Historical Use of Drugs

VI. Habit Forming and Addicting Drugs

SENIOR HIGH SCHOOL
(grades 10, 11, & 12)

I. Addiction and Habituation

II. The Narcotic Drugs

III. Marihuana

IV. Stimulants

V. Drug Traffic

VI. Legislation

VII. Rehabilitation of the Addict

O U T C O M E S

THE PUPIL IN SENIOR HIGH SCHOOL SHOULD:

-- understand varying causes and factors leading to drug addiction

-- understand the nature of narcotic drugs, the benefits of their use, and the consequences of their abuse

-- know the nature of barbiturate drugs, their uses, and the potentials of abuse as our society's most serious drug problem

-- know the nature and use of stimulant drugs and the effects of developing a dependence on these substances

-- realize the nature and research value of LSD and the dangers of this potent drug to mind and body

-- understand control measures being taken to control illegal drug traffic

-- understand current treatment of the addict and the varying approaches being discussed for the possible solution to the drug problem

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Addiction and Habituation A. Definition	The term "drug dependence" may be used to include both drug addiction and drug habituation.		"Drug Addiction is a state of periodic or chronic intoxication produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include: (1) an overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means; (2) a tendency to increase the dose (3) a psychic (psychological) and generally a physical dependence on the effects of the drug; (4) an effect detrimental to the individual and to society." "Drug Habituation (habit) is a condition resulting from the repeated administration of a drug. Its characteristics include: (1) a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being that it engenders; (2) little or no tendency to increase the dose; (3) some degree of psychic dependence on the effect of the drug, but absence of physical dependence and hence of an abstinence syndrome; (4) a detrimental effect, if any, primarily to the individual."

DRUG ABUSE

*Drug abuse may be defined as the taking of drugs under the following circumstances:

"a) in amounts sufficient to create a hazard to his own health or to the safety of the community;

or

b) when he obtains drugs through illicit channels;

or

c) when he takes drugs on his own initiative rather than on the basis of professional advice."

1-Report of the Task Force on Addictions
State of New York
Department of Mental Hygiene

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Addiction is characterized by three separate phenomena: 1. Tolerance 2. Habituation 3. Physical dependence Addiction may occur with drugs other than derivatives of opium. Synthetic compounds may be equal in their addictive effects.	Pharmacopoeia of the United States of America may be used as a reference.	Tolerance: Increase dosages needed to secure the same effect. Habituation: An emotional or psychological need for drugs in order to sustain a feeling of well-being. Physical dependence: The need for drugs expressed by bodily demands.
B. Some Causes of Addiction	There is a very complex relationship between drug addiction and drug use. There are some drugs that may be called "lead-up drugs," in the sense that they introduce the beginner to the use of addicting compounds. A person may be addicted to drugs because of medical treatment during an illness or injury. A person may be addicted to drugs because of mental - emotional - social problems.	Film: Narcotics - Why Not	The largest number of addicts is to be found in the teenage groups, ages 15 to 19. Oftentimes the use of such products as ethyl alcohol, pep-pills, marihuana, may lead to an "experiment with more dangerous drugs." Disease Components (Drug addiction as a disease) 1. Host - the person 2. Agent - the drug 3. Environment which acts as a catalyst to bring host and agent together.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
1. Medical or Accidental Addiction	Accidental addiction occurs when large doses of opiates are given to an individual because of painful injury or illness. Many young people are victims of accidental addictions because they were enticed to try an addicting drug on a dare **or** challenge.	Read autobiography of Barney Ross who suffered accidental addiction due to World War II injuries. Is it "chicken" to refuse to try a drug? Who has the stronger personality? The one who refuses to try a drug, or the one who is goaded into trying it?	Where emotional problems are not related to addiction as in accidental addiction, the chances of the individual overcoming the addiction is better. Unaware of the powerful addicting qualities of some drugs young people are trapped into addiction. An increasing number of teenage addicts being treated for addiction are accidental addicts. It is estimated that 5,000 boys and girls develop addiction each year in New York City.
2. Emotional Problems	The unhappy person who feels insecure and inadequate may use drugs as a means of escaping his problems and feelings of inadequacy. Solving problems by seeking the help of parents, friends, counselors, clergymen, psychologists, and psychiatrists is more constructive than adding the problem of addiction.	Suggest the *Life* magazine article, "Drug Addiction," by J. Mills, Life, V. 58, February 26, 1965, page 66B-82+; March 5, 1965, page 92B-103+. Visual Aid: Photographs of actual material used by addicts. These are sometimes available through local law enforcement agencies.	Many addicts are described by psychiatrists as being immature and incapable of assuming responsibility. The United Nations Committee on narcotic drugs lists 79 **drugs**, including 51 synthetics. Addiction to heroin is possible after three "fixes."

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
II. The Narcotic Drugs			
A. Opium and Its Derivitives	Drugs derived from opium can be addicting. Illegal opiates are brought into this country by the underworld.		Opium is obtained from the milky juice of the unripe seed pod of the opium poppy. Narcotics are depressant drugs that act on the central nervous system. Narcotics have no curative value, but can serve to relieve pain. Narcotic drugs cause mental and physical inactivity, produce sleep, and in larger doses cause stupor, coma, and death.
1. Morphine	Morphine is used medically to relieve severe pain. Morphine should never be taken except on a doctor's order. Continued use of morphine can result in addiction.	Invite the school physician to discuss the medical uses of opiates.	Morphine is a fine powder that is odorless and has a bitter taste. Morphine sold to the addict is usually diluted with quinine or milk sugar. Addicts call capsules of morphine "caps" and flat packets "decks." A tolerance can be developed for the drug with continued use. The addict needs increasingly larger doses to satisfy his body needs. While small doses of morphine relieve pain, larger doses can produce sleep, unconsciousness, and even death.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Suggested movies: see supplementary aids: "The Terrible Truth"	Withdrawal symptoms include a total state of misery; emotional and physical irritability; nervousness, headache, twitching, tremor, and vomiting. After prolonged addictions, symptoms may include convulsions-delirium; disorientation, tremor, hallucination, delusions, fever, and prolonged sleep. Occasionally, withdrawal may be fatal.
2. Heroin	Heroin is a white powder made from morphine.		Heroin is about three times as powerful as morphine. Because it has a strong effect and provides a greater "kick," it is the opiate preferred by addicts.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Heroin, once throught to be nonaddicting, is actually a stronger addicting drug than morphine.	Review literature and report on those drugs that were thought harmless when first discovered, but later proved to be addicting or harmful in other ways.	Heroin is sold in the same form as morphine.
	Heroin is outlawed in the United States, even for medical use because of its strong addicting qualities.		
	Heroin is a source of huge profits for the underworld.	Discuss the terms: dope, hooked, fit, fix, monkey on your back, cold turkey, etc.	Approximately 2 lbs. of raw opium is bought for about $350 from Turkish farmers. After it is converted to heroin, it is diluted with milk sugar to the extent of 95% or more. It is then sold to the addicts for almost a half million dollars. It is estimated that the price of heroin is over 200 times that of gold.
	Addicts usually inject the drug into a vein. Serious diseases such as malaria, syphilis, and infectious hepatitis are transmitted from one addict to another by unsterilized needles.		
	The strength of the adulterated heroin that reaches the addict cannot be predicted. If it is too strong it will cause death. If it is too weak it will not relieve the developing symptoms of withdrawal illness.	Invite a narcotics squad man to discuss problems of dealing with and apprehending the addicted.	Addicts are often identified by scars on arms and legs, the result of excessive punctures by needles. The drug is many times contaminated with impurities harmful to the addict. There is no FDA in the underworld!

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Withdrawal Illness	The physical dependence created by the drug causes the body to react in its absence; this is called withdrawal illness.	Film: The Losers	
	The symptoms of withdrawal illness at first resemble those of influenza: chills, perspiring, goose flesh, running eyes and nose; arms and legs ache and twitch; diarrhea and vomiting; individual curls up with severe cramps in arms, legs, stomach, and back; pleads for drug.		Peak of withdrawal symptoms are reached in 24 to 30 hours. (If the addicted was using heroin.) When using morphine, symptoms reach a peak in 36 to 48 hours. Many addicts live in constant fear of withdrawal illness. The effects of a dose of the drug (heroin et. al.) wear off in three to four hours. Maintaining "the habit" may cost as much as $50 - $75 a day.
	An elevated crime rate is related to drug addiction.	Describe why the crime rate is invariably increased where drug addiction exists.	Most new addicts were already launched on some kind of a crime career prior to addiction.
	Stealing and prostitution are main sources of income for the addict.		In New York City alone, it is estimated that addicts must raise $500,000 to $700,000 daily to maintain their addiction.
	Drug addiction affects all of society.		It is estimated that there are 13 billion doses of heroin used per year.
4. Other Opiate Drugs: Dilaudid Metopon Codeine	Dilaudid, metopon, codeine are similar to morphine and have similar effects.		Codeine has a low grade addiction liability. Dilaudid and metopon are as addicting as morphine.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Other opiate drugs: (additional) 1. Morphine group: opium, paregoric, morphine diacetyl morphine = heroin, codeine dihydromorphinome = dilaudid dihydrohydroxy codeinone = Percodan (nalorphine) 2. Meperidine group: meperidine = Demerol (the physician addicts favorite) alphaprodine = Nisentil 3. Methadone group: d-propoxyphene = Darvon methadone diphenoxylate = Lomotil 4. Morphinans: Levorphanol = Levo dromoran Nalorphine, when administered under the supervision of a physician, will produce withdrawal effects in a person already addicted to morphine. This is sometimes used to uncover the addict who may be adept at concealment.
5. Synthetic Substitutes for Morphine	Demoral and methadone are drug substitutes for morphine that can be manufactured in the laboratory. They are also addicting.		Methadone is being tested for maintenance use in addicts undergoing treatment for heroin addiction.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
B. Barbiturates and Tranquilizers	Barbiturate drugs are sedative prescription drugs used by the medical profession to help people to relax and sleep.	What would be considered proper use of barbiturate drugs?	
	The names of these drugs usually end in "al" since they are related to barbital.		Examples of barbiturates are: Phenobarbital, Luminal, Amytal, Nembutal, Seconal, Pentothal, pentobarbital.
	Barbiturates in larger doses can cause an intoxication similar to that caused by alcohol.		Sedative drugs sometimes lead to periods of excited behavior when they depress mental control centers that inhibit behavior.
	Continued unsupervised use of barbiturates will lead to dependency.		Barbiturate drugs are often colored which has led addicts to refer to them as "yellow jackets," "blue angels," or "pink ladies." They are also referred to as "goofballs."
	Barbiturates taken as directed usually have no adverse effects on the body.		
	There has been a sharp increase in the use of barbiturates in this country.	Why do some authorities fear that the misuse of barbiturate may pose an even more serious problem than the misuse of opiates?	Many authorities fear that barbiturate habituation may prove to be the most severe drug problem in our society.
	Barbiturate poisoning is the leading cause of adult death by poisoning.		An overdose of barbiturates will produce symptoms similar to alcohol intoxication, (poor judgment, emotional instability, semiconsciousness, hallucinations, and delusions.)
	Many deaths due to barbiturate poisoning are listed as suicides.		
	The use of barbiturates following the intake of alcoholic beverages may prove to be a fatal combination of drugs.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	A person intoxicated with barbiturate drugs may in an irresponsible moment swallow a handful of the pills that will cause his death.	Collect and review newspaper reports of death due to barbiturate poisoning/ suicide.	Barbiturates cause death by depressing the activity of the respiratory control center in the brain. The habitual user of barbiturates is drowsy, confused, depressed, morose, and quarrelsome. Some become hostile, tend toward paranoia, and may be assaultive.
	Tranquilizers, when used in combination with alcohol, increase the intoxicating effects and may cause death.		Persons using tranquilizing drugs should avoid the use of alcohol. It is entirely possible to experience extremes in intoxication.
1. Withdrawal Illness	Withdrawal illness in barbiturate dependency is more severe than with any opiate drug. Medical withdrawal for the barbiturate habituent may take months. The number of barbiturate addicts is unknown. It is estimated to be in the thousands.		Withdrawal symptoms start with hyperactivity tremors and insomnia, followed by a grandmal convulsion and/or a temporary psychosis similar to delirium tremors. Death may occur with the sudden withdrawal of the drug. Attempted withdrawal from barbiturates without medical supervision is dangerous. Even gradual withdrawal from barbiturates under medical supervision involves a risk. Barbiturate habituents are not eligible for treatment at Public Health Service Hospitals.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
III. Marihuana	Marihuana comes from the flower and leaves of the Indian hemp plant.	Supplemental aids should contain pictures of marihuana cigarettes.	Most marihuana entering the country comes from Mexico. It can, however, be grown in this country.
	Marihuana is smoked in the form of cigarettes that look homemade (reefers).		
	Marihuana generally results in people being less inhibited. It often results in unpredictable behavior, hallucinations, and sometimes, violence.		While an undesirable drug, studies have shown that the use of alcohol is more closely associated with violence than marihuana.
	The unstable person using marihuana may become psychotic.		The drug results in talkativeness, psychomotor activity, followed by a feeling of calm and relaxation, and possible sleep. Similar misleading reactions occur when people are under the influence of beverage alcohol.
	While marihuana is not addicting it often leads to the use of stronger addicting drugs.	Discuss the circumstances and atmosphere in which marihuana is smoked. How is this inducive to experimentation with more dangerous drugs?	
	Marihuana is classified as a narcotic drug.		Pharmacologists and other authorities classify it as an hallucinogenic drug.
	Marihuana can become a strong habit forming drug.		
	The 1937 Marihuana Act forbids the sale, manufacture, importing, prescribing, or administering of the drug.		Studies conducted in countries where marihuana is smoked by habitual smokers (6 or more cigarettes a day) show a definite relationship with a high incidence of drug induced mental illness.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
IV. Stimulants			
A. Cocaine	Cocaine was once commonly used as a local anesthetic. It has been replaced by novacaine.	See supplemental aids for picture of cocaine powder and leaves.	Cocaine comes from the leaves of the coca plant.
	The addict using cocaine often has hallucinations and may commit violent crimes under its influence.	See glossary of drug users terms for slang expressions related to cocaine.	Cocaine can be absorbed through the mucus membranes and is breathed in ("snorted") by the addict.
	Physical dependence does not develop with cocaine and so no withdrawal illness is associated with it. It is, however, a strong habit forming drug.		The drug causes a feeling of exhilaration and self-confidence. As the drug wears off the person feels weak, depressed, and irritable. Tremors, digestive disturbance, confusion, and muscular weakness may follow.
B. Amphetamines (Benzedrine) and Related Compounds	Amphetamines serve to stimulate the central nervous system. They are often referred to as "pep pills."		Because they act as body stimulants and depress appetite, physicians sometimes prescribe diet pills that contain amphetamines to overweight people.
1. Medical Uses	Amphetamines help to reduce swelling of mucus membranes during a cold, so small amounts may be used in inhalers for this purpose.	Invite a pharmacist to discuss his precautionary practices to prevent abuse of prescription drugs.	These prescription drugs should not be given to others. Prescription doses are determined by the person's height, weight, age, condition of health, etc. Prescriptions are personal.
	Stimulant drugs produce a feeling of well-being and are sometimes prescribed by the physician to help people overcome feelings of depression.		Continued use of amphetamines results in a type of chronic poisoning. The drug produces a feeling of well-being and exhilaration which is followed by fatigue and depression.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Amphetamines are sold only on prescription.		
2. The Misuse of Amphetamines and Their Effects	Overdoses of amphetamines can result in a loss of judgment. People under their influence feel capable of, and may even attempt, impossible dangerous feats.	Film: Drug Abuse - Bennies and Goofballs	Symptoms produced by overdose of the drug include tremor, insomnia, loss of appetite. Psychosis and paranoid delusions may occur in some individuals.
	Continued abuse of the drug could result in hallucinations and a psychotic state.	Invite a psychiatrist to discuss the psychological effects of drugs.	Truck drivers who habitually use these drugs to stay awake on long trips may be involved in tragic accidents.
	The alternate use of barbiturates and amphetamines can lead to serious mental illness or barbiturate poisoning.		The alternate use of barbiturates and amphetamines often leads to overdosing with both.
	Overuse of amphetamines can result in dependence ranging from mild habituation to true addiction.		Nicknames for trademark amphetamines: amphetamine sulfate - "bennies " dextroamphetamine sulfate - "co pilots " dextroamphetamine sulfate-amphetamine sulfate - "footballs "
C. Hallucinogenic Drugs	LSD (lysergic acid diethylamide) and peyote are examples of hallucinogenic drugs.		LSD is synthesized in the laboratory, peyote comes from the peyote cactus of the American southwest. Mescal beans and certain Mexican mushrooms are other sources of hallucinogenic drugs.

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	LSD is being used experimentally by psychiatrists to treat alcoholics and mentally ill patients.	FDA Pamphlet SR-14 Hallucinogenic drugs.	Some experimental data indicates patients develop greater insight into their problems as a result of treatment with LSD.
	The reactions to the drug are often unpredictable.	A prankster gives LSD to another person without that person's knowledge, with psychosis, crime, or death a possible result. Discuss what should be the penalty for the prankster.	Under the influence of the drug, a person might step out in front of a car because he feels it can't hurt him.
	Pranksters and "thrill" seekers have used the drug with psychosis, crime, and death sometimes resulting.	Review newspapers, magazines, and professional literature for reports on increasing numbers of LSD users being admitted to mental hospitals for LSD induced psychosis.	Mental disorganization or epileptic seizures sometimes are reactions in other users.
	One ounce of LSD can provide an average dose for 300,000 people.	Discuss current penalties for possession of LSD. Are they adequate?	Some LSD users have reported pleasant productive "trips" where math problems are solved, perceptions are keener, self-understanding greater. Others feel that the ability of the LSD user to self-evaluate his drug experience is probably as accurate as the inebriated person's estimate of his ability to "lick the world."
	One dose of LSD may cause permanent or prolonged psychological damage.		
	LSD does not seem to be addicting or habit forming.		LSD has a potential if misused to be the most dangerous drug of all.
	Long term effects of the drug on the brain are unknown.		
	The drug is considered so dangerous that it is not legally available by prescription.		

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	While psychiatrists work very carefully with this potent drug, pranksters and "thrill" seekers who obtain the drug illegally serve as menaces to the community as well as to themselves.		
D. Tranquilizers	Tranquilizers were initially used on mental patients because of their quieting effects making the patient more receptive to psycho-therapy.		
	Tranquilizers are now often prescribed for people who are "nervous."	Discuss with a physician the medical uses of these drugs.	
	Tranquilizers are strong habit forming drugs. Six have been identified as being capable of addiction.		One-half million pounds of tranquilizing drugs are used in the United States each year.
	Alcoholic beverages in combination with tranquilizers have at times proven to be a lethal combination.		
	Many automobile accidents are due to people driving while under the influence of these drugs.		

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
V. Drug Traffic			
A. Sources	Raw opium gathered by Turkish farmers is converted into a morphine base and shipped to Italy and France where it is converted to heroin. The heroin is then smuggled to the eastern United States. Asiatic countries are also opium producers and smuggle heroin into the west coast of the United States.		
B. Control Measures	The Federal Bureau of Narcotics, a part of the U.S. Treasury Department, has agents around the world in attempts to reduce heroin traffic into this country. The Federal Bureau of Narcotics works with local and state agencies to control narcotic traffic.		
	The U.N. has attempted to act as the controlling agency for all opiate drugs in world trade.	Why has the U.N. been limited in its attempts to act as a controlling agent for the sale of opiate drugs?	Small countries that produce opium receive large incomes from the sale of these drugs. With U.N. control these drugs would be used for medical uses only, which would result in a loss of income. Disagreements on the prices to be set for these drugs is another factor.
	The U.S. is the principal target of the illegal narcotic drug trade, with New York City its largest addiction center.	What are the factors related to the U.S. being the major "market" for illegal drug traffic?	

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VI. Legislation			
A. New York	New York State's Metcalf-Volker Act of 1963 gave arrested addicts the opportunity to seek voluntary commitment to a hospital and thus avoid a jail sentence.	Invite a local legislator to discuss current drug legislation and its contributions to drug control.	The Metcalf-Volker Act has not been as successful as hoped since a large number of addicts leave the hospital before the prescribed time and 90% return to the use of drugs.
B. Federal	The Harris-Dodd Act forbids the excessive refilling of dangerous drug prescriptions and requires that records be kept of their manufacture, sale, and distribution. A supreme court decision in 1962 indicated that making addiction of itself a crime was unconstitutional since the court regarded addiction as an illness. It further stated that the development of programs of compulsory treatment of the addict might serve the health and welfare interests of the state.		The Harris-Dodd Act amends the Federal Food and Drug Act in the following ways: (1) It requires that records be kept of the manufacture, sale, and distribution of those drugs considered dangerous. (2) Forbids the refilling of a dangerous drug prescription more than five times. Such prescriptions cannot be refilled after a 6 month period of time. (3) Agents of the Food and Drug Administration can now be armed, use search warrants, and make arrests. (4) Illegal sale of barbiturates or amphetamines to a minor carries a maximum penalty of 2 years in prison and a $5,000 fine. Illegal purchases of drugs can now be detected. Previous to this provision a prescription for barbiturates or amphetamines which could be filled indiscriminately led to misuse.

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			Sale of narcotic drugs or marihuana to minors carries a severe penalty of 10 to 40 years imprisonment and up to a $20,000 fine.
	In 1966, the New York legislature passed a bill making it mandatory for every addict to receive hospital treatment for an extended period.	Discuss current drug legislation with regard to its strengths and weaknesses.	A special penalty for the sale of heroin to a minor could include life imprisonment.
	While laws and enforcement are helpful in attempts to control drug use and abuse, judicious use of these substances by the individual is his and society's greatest protection.		In 1961, California law provided that the addicted person volunteer or be sentenced to a rehabilitation center for a least 6 months, and if found necessary, up to 5 years. The prisoner or volunteer is released on parole but must remain drug free for 3 years in order to be discharged.
VII. Rehabilitation of the Addict	While the addict may be regarded as a criminal in our society, he is also regarded as being ill.		
A. Varied Facets of Rehabilitation	An addict may be treated by a private physician. Physicians who choose to give such treatment do so in a hospital setting where the amount of drug reaching the patient can be controlled.		The AMA does not recommend any treatment procedures whereby the addict is given drugs for self-administration.
			Many physicians in private practice shy away from treating addicts in fear of prosecution. Some just do not want to get involved.
	Federal hospitals in Lexington, Kentucky and Fort Worth, Texas were the first to treat addicts.		There are now a number of hospitals in New York State for the treatment of the addicted.

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	The first phase of treatment consists of withdrawing the addict from the drug (detoxification).		Detoxification may take anywhere from 4 to 12 days.
	Methadone may be substituted for the drug used by the addict, and the dose is gradually diminished.		
	The most difficult phase of rehabilitation for the addict is his learning to face up to life's responsibilities without the use of drugs.		Narcotics Anonymous is an organization designed along the same lines as Alcoholics Anonymous. To date, it has not received much support, financial or otherwise. This is probably so because of suspicion of even the rehabilitated addict.
	Most addicts are described as immature, easily frustrated, and incapable of assuming responsibility. They may be demanding and stubborn.	Give an analysis of these factors that leads to addiction to drugs. How can this problem be prevented?	
	Psychotherapy is helpful in assisting the addict to adjust to a drug free life.		
	Vocational rehabilitation is often necessary if the addicted are to assume responsible positions in our society.		Some psychiatrists in the field feel that the addict is not with them long enough for treatment to be effective.

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	The addict released from the hospital and going back to his old haunts and problems often has little chance of remaining drug free. A drug (cyclazocine) may be given to the drug patient after detoxification to reduce the urge to return to the use of morphine. Greater research efforts are needed to develop better treatment and prevention methods for this illness.		Over 90% resume the use of addicting drugs. Halfway Houses provide a method of controlling socioeconomic factors which may contribute to addiction. This may prevent the person from slipping back into the old pattern of behavior. Halfway Houses provide quarters that have none of the same environmental influences as the original living conditions. Good diet, clean surroundings, and the support of friends is important.
		Review the literature and report on the new approaches to the rehabilitation of the addicted.	There is a "maturing out" process that sometimes occurs as a result of a person solving the problems that led to addiction in the first place. This sometimes happens when a person reaches his thirties. Following detoxification (becoming clean) when the system is free of drugs, an orally administered drug (cyclazocine) seems to be effective in staying the urge to return to morphine. It serves to combat the euphoric effects of drug use. Synanon: The Synanon Foundation, Inc. is about 7 years old. The Synanon staff act on the premise that the

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			addict's behavior is stupid. A living environment is provided in which models of behavior include previous addicts who have discontinued drug use. Day-Top Lodge: This is similar to Synanon but it is administered by the Supreme Court of the State of New York and all inmates are on parole.
	Recent State legislation established The Narcotic Addiction Control Commission to administer the program which provides treatment for the addict and punishment for dealers in narcotics.		
B. Britain's Approach	Addicts are not regarded as criminals in England, but as ill people. English physicians who prescribe drugs for the addict must make every effort to withdraw the addict from his drug. In 1959 there were only 454 known addicts in Britain, 753 in 1964, and 927 in 1965. While the problem is really not comparable with the United States it is of increasing concern.		

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C. Varying Approaches in the United States			
1. Penal Approach	The addicted or dependent person should be severely dealt with in the courts. Dope peddlers should be heavily punished, including the death penalty.		Some people feel that the penal approach has failed as evidenced by the incidence of addiction in the United States.
2. Clinic Approach	Set up clinics to administer drugs to addicts. Legalized drugs would do away with the underworld business in illegal drugs. This would reduce recruitment of new addicts, increase possibilities for needed research in the area. Incidence of addiction would become known. Drug addiction cannot be cured by incarcerating the addicted.	Assemble a panel to gather materials and then present varying points of view on how the addiction problem should be handled.	Those who favor the penal approach feel that the setting up of clinics for free drugs is to perpetuate the problem. They point to a rather disorganized effort in the 1920's to set up clinics as proof of failure of this approach.
3. Rehabilitation Centers	An addicted person is committed (voluntarily or otherwise) to a rehabilitation center for a stated period of time during which he is withdrawn from the drug and given therapy.		Recent legislation passed in New York State that would commit an addict to a rehabilitation center for a 3-year period has elements of the penal and clinical approaches.

DRUGS AND NARCOTICS

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S M O K I N G A N D H E A L T H

An Experimental Unit for Grades 10,11,12

O V E R V I E W

High school instruction about smoking should be based on experiences gained in the earlier grades, and is of value in helping the pupil in his explorations of other questions related to smoking.

Exposure to different attitudes toward smoking will increase one's knowledge of, and sensitivity to, the viewpoints of others, whether they be proponents or opponents of tobacco use.

A consideration of the psychosocial implications of smoking is suggested to better develop understandings of the extrinsic and intrinsic motivations for smoking.

Smoking research, as it relates to teenagers, can be examined as a means of stimulating the pupils to reconsider and utilize basic understandings and concepts relative to smoking. Efforts to encourage class research and to share their experience with others in the community is an effective way for these pupils to expand their classroom experience and broaden their understanding of man's use of tobacco.

SMOKING AND HEALTH

(Teaching Units for Grades Four through Twelve)

INTERMEDIATE GRADES
(grades 4, 5, & 6)

I. Your Decision About Smoking

II. Man's Use of Tobacco

III. Tobacco and Health

IV. Deciding About Smoking

JUNIOR HIGH SCHOOL
(grades 7, 8, & 9)

I. The Advertisement and Promotion of Tobacco

II. Developing the Smoking Habit

III. Physiological Effects of Tobacco

SENIOR HIGH SCHOOL
(grades 10, 11, & 12)

I. Attitudes Toward the Use of Tobacco

II. Psychosocial Factors Related to Tobacco Use

III. Smoking Research and Reports

IV. Smoking Among High School Students

O U T C O M E S

THE PUPIL IN GRADES 10, 11, AND 12 SHOULD:

..... understand the attitudes of different groups toward the use of tobacco

..... be aware of the psychological and sociological factors related to smoking

..... appreciate the significance of smoking research activities and consider the data obtained in making a decision to smoke or not to smoke

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Tsar Michael banned smoking in Russia, and those who were caught smoking had their noses cut off and were exiled to Siberia. It is believed that the threat of fire in the wooden houses of this area was the basic reason for this ban. Tobacco bans in Germany by Frederick the Great involved heavy fines for those selling or using tobacco. This measure was more successful than most and is very likely the reason why smoking was not popular in Germany until after 1700.
I. Attitudes Toward the Use of Tobacco		Have students prepare an essay on "Attitudes Toward the Use of Tobacco."	Many other countries issued bans on tobacco use but they were often ineffective.
A. Antitobacco Crusaders of the 19th Century			The antitobacco movement reached America after the Revolutionary War. In 1798, Benjamin Rush published an essay entitled, "Observations Upon the Influence of the Habitual Use of Tobacco Upon Health, Morals, and Property." Rush claimed that the only way to quench the smoker's thirst was to drink liquor. This was the first significant anti-tobacco document published in the United States.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
1. Early activity			Tobacco reformers of the 19th century included Gerrit Smith, Horace Mann, Henry Ward Beecher, Joel Shaw, George Trask, and Horace Greeley. These individuals agreed with Benjamin Rush that "rum and tobacco are allies." Many antitobacco pamphlets were published in this era. The kind of morality inherent in much of this writing is apparent in the following title, published in 1852 by the Rev. Mr. Trask - "Thoughts and Stories for American Lads or Uncle Toby's Antitobacco Advice to His Nephew, Billy Bruce."
2. Civil War	Controls of tobacco production during the Civil War were designed to encourage farmers to grow provisions essential to the war effort.	Encourage a student to research the events preceding the famous battle of Antietam. Perhaps his investigation will reveal a small, but somewhat significant role played by tobacco in this conflict.	During the Mexican War, the 1849 "gold rush," and the prosperity of the early 1850's, the increased use of tobacco discouraged tobacco reformers. The Antitobacco Movement practically disappeared with the Civil War. The tobacco states divided their allegiance during the Civil War. Virginia, North Carolina and Tennessee were Confederate states, while union loyalty was claimed by Maryland, Kentucky, and Missouri. The Confederate Congress of 1862 passed a resolution recommending curbs on tobacco and cotton production so that planters could concentrate on raising wartime provisions.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
B. Recent Opposition (20th Century)			
1. Bans on tobacco sales	Several states have tried, with little success, to ban the sale of tobacco products.		Opposition to tobacco use in the early 1900's was focused on the growing fashion of cigarette smoking. The victory of the prohibitionists, in passing the 18th amendment, revitalized the antitobacco movement in this country. An Anticigarette League was formed. This League enjoyed considerable success with church groups. For instance, in 1924, the General Assembly of the Methodist Church passed a resolution that all future Methodist ministers refrain from smoking. Also, the League was instrumental in encouraging tobacco bans in nine states. By 1920, 5 states still enforced these bans.
2. More active opposition by medical profession	The American Medical Association is engaged in activities designed to discourage smoking.	Write to the American Medical Association for information relative to their views of tobacco use and educational campaigns concerned with smoking. Discuss the extent to which the American Medical Association's position is irrational, scientific, logical, or biased.	Since about 1920 the number of publications dealing with the physiological and pathological effects of smoking has increased. The approach of many medical people was not to condemn smoking, but to warn smokers of the health effects of immoderate smoking.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Tobacco taxes		Request from New York State Department of Taxation and Finance, information about tobacco tax revenue in New York State. Compare (graphically) this revenue with total state operating budget, and with various budgetary expenditures. Have students determine the percentage of the cost of a pack of cigarettes which is taxes.	Iowa, in 1921, was the first state to tax cigarettes. By 1941, the number of states taxing tobacco products had increased to 27. The levying of taxes on tobacco was principally for economic reasons. However, part of the motivation had to do with satisfying the demands of antitobacco groups which had repeatedly failed in achieving tobacco prohibition.
4. Health organizations	Agencies vitally concerned with the health status of Americans, are vigorously involved in antismoking programs.	Divide your class into groups and have each group write to one of the following organizations for information about smoking: American Cancer Society American Heart Association National Tuberculosis Association National Congress of Parents and Teachers American Association for Health, Physical Education & Recreation American Medical Association Invite a representative of your local medical society to speak to your class about "Smoking and Health."	The American Cancer Society, American Heart Association, National T.B. Association, and other voluntary health groups have organized educational campaigns to discourage the use of tobacco. The National Interagency Council on Smoking and Health is a voluntary association of 22 professional, private, voluntary, and governmental agencies which was formed in 1964 under the leadership of voluntary agencies and the U.S.P.H.S. The purpose of the N.I.C.S.H. is to educate the public to the health hazards of cigarettes.

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5. Professional groups	The leading scientific and medical groups in the country acknowledge the health hazards of smoking.	Have groups of students report on the results of their correspondence with the above organizations.	The American Medical Association recognizes "a significant relationship between cigarette smoking and the incidence of lung cancer and certain other diseases." The American Association for Thoracic Surgery, The American College of Chest Surgeons, and the Society of Thoracic Surgeons all passed resolutions in 1965 recognizing the contributory effects of cigarette smoking on pulmonary emphysema and lung cancer, and endorsing continuing anti-smoking campaigns.
		Arrange for a representative of Roswell Park Memorial Institute to speak to the P.T.A. or similar community groups about the health hazards of smoking, and the activities of the Roswell Park staff.	The House of Delegates of the A.D.A. has urged members of the A.D.A. to undertake educational efforts to inform their patients of the health hazards of smoking.
		Have students read "Cigarette Warning, the Aftermath," which appeared in the U.S. News of January 27, 1964. This will serve as a basis for a general class discussion.	Medical, dental, nursing, and other professional organizations have endorsed anti-smoking campaigns in several states, including - Alaska, Arizona, California, Colorado, Connecticut, Florida, Hawaii, Idaho, Maine, Massachusetts, Michigan, Minnesota, New Jersey, New Mexico, New York, North Dakota, Ohio, Pennsylvania, South Dakota, Texas, Utah, Vermont, Washington, and the District of Columbia.

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C. Proponents of Tobacco Use			
1. Tobacco-producing states	The sale of tobacco is presently essential to the economic well-being of certain areas of the United States.	Request information about tobacco production and use from tobacco-producing states.	Those states whose economies are based heavily on the tobacco industry have resisted attempts to discourage tobacco use, but often concede that excessive smoking, like excessive eating, excessive drinking, and excessive speed in autos could be dangerous to health.
a. Economic importance of tobacco industry		Students analyze the appeals made via these materials.	
		Plan for two groups of students to debate the following: "The federal government should (should not) sponsor competitive industry in tobacco-producing states, in order to reduce tobacco production."	The tobacco-producing states agree that something should be done to solve the problem so long as the measures do not seriously affect their economies.
			The value of the tobacco industry to the United States is approximately $8 billion annually.
			Nearly 800,000 farm families depend on tobacco as their No. 1 money crop.
			The economic welfare of approximately 17,000,000 Americans is dependent to a greater or lesser degree on tobacco.
			The tobacco industry purchases 25% of the nation's foil and is a leading user of paper products.

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			The Federal Government collects in excess of $2 billion annually from tobacco taxes. The State governments of the nation collect another $1 billion per year.
b. Encourage more research	The tobacco industry, while not rejecting research completed to date, has urged the government to engage in additional research on tobacco and health.	Request copies of the pamphlet "Your Health and Cigarettes," available from the American Cancer Society.	In view of the importance of tobacco to our national economy, these states urge the government to conduct more research so as to identify the basic problems. They do not support any measures to prohibit tobacco use.
2. Tobacco Industry Research Council		A member of the class might write a letter to the Tobacco Research Council and request a copy of the cigarette advertising code agreed upon by the tobacco industry on April 27, 1964. Using this code as a basis for judgment, determine to what extent tobacco advertising conforms to this code.	At the beginning of 1954, cigarette manufacturers and tobacco growers formed the Tobacco Industry Research Committee to finance research relating to tobacco and health. This group feels that many broad areas must be carefully researched before final answers to the question of tobacco and health will be known. TIRC believes that any decision affecting the gigantic tobacco industry should be made by Congress, rather than the FTC or any other similar group. Unwise regulations or legislation could have repercussions on the nation's economy.
3. Major arguments of the "doubters"	The vast majority of people who question validity of the evidence against smoking are smokers.	Perhaps some students doubt the evidence linking smoking with lung cancer and other diseases. Determine who these students	

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		are and have them summarize their reasons for doubting. How many of the "doubters" are smokers? Determine which students accept the fact that smoking is a health hazard. They should have little difficulty supporting their views. Plan a class discussion on the topic, "How convincing is the case against smoking?"	
a. "The cause of cancer is unknown so how can one say that cigarette smoking causes lung cancer?"	Specific cancer-producing agents have been identified.		Specific carcinogens have been determined for many types of cancer. Many measures of disease prevention (e.g., smallpox vaccination) were used long before the cause of the disease was known. Although the exact cause of diabetes is unknown, there is no doubt that insulin is of value to diabetics.
b. "The evidence is only statistical and is therefore inconclusive."	The use of statistical evidence is a universally accepted scientific procedure.	Perhaps students could suggest how this evidence could be anything but "statistical"!	Much scientific evidence must of necessity be statistical. The proper use of statistics is an accepted scientific technique. Without purely statistical observations, Thalidomide (a medication taken by women during pregancy) would still be responsible for thousands of deformed babies.

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c. "Not all cigarette smokers or even all heavy smokers develop cancer."		Review the morbidity and mortality rates for lung cancer, emphysema, etc., among smokers and non-smokers.	Our evidence of the effectiveness of oral polio vaccine is based on statistical population studies. To medical men this is not surprising, because individual differences in susceptibility and resistance to disease are much more common than is uniformity. For example, less than 2% of those infected with the polio virus develop polio. Yet, we don't doubt the role of the virus in causing polio.
d. "Cigarette smoking cannot be the cause of lung cancer because other causes have been demonstrated."	Although the relationship between smoking and health is clearly established, authorities recognize that other environmental factors (i.e., atmospheric pollution) are also related to the incidence of lung cancer.	Students might investigate the lung cancer, bronchitis, and emphysema rates in states which are predominantly rural and those which are largely urban. Use of the film, "Breaking the Habit," might be useful at this point (F #9), especially if the "doubters" in your class are beginning to question their desire to smoke.	It is true that the inhalation of dusts containing radioactive ores, chromates, nickel, etc., can cause cancer, and it is possible that atmospheric pollution by auto exhaust fumes may also cause the disease. This, however, does not invalidate the evidence implicating cigarette smoking as the major cause of lung cancer. Authorities have never maintained that smoking is the only cause.
II. Psycho-social Factors Related to Tobacco Use			Present evidence does not indicate that a true "smoker personality" exists. Psychometric devices designed to measure personality vary greatly and often yield contradictory results. Many of these tests are of uncertain validity. The Surgeon General's Report states that "at the present state of knowledge, it is more fruitful and more valid to speak
A. Psychological Factors	Although no true "smoker's personality" has been identified, there are distinct personality characteristics associated with smokers.		
1. The "smoker personality"		Organize buzz groups to discuss personality traits that	

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		are frequently more common among smokers than non-smokers. Have each group report to the entire class to compare discussion conclusions.	not in terms of smoker personality, but rather in terms of discrete personality characteristics which may be found to be associated with smokers."
a. Extroversion and introversion			A "reasonably" valid study conducted by Eysenck in England showed a very significant relationship between extroversion and smoking. He found that heavy smokers exhibited more extroverted traits than medium smokers, who in turn were more extroverted than light smokers or ex-smokers. Non-smokers and pipe smokers were least extroverted. The general finding was that smokers tend to be more outgoing than nonsmokers. Subsequent studies have corroborated Espenk's work while others have not.
b. Neuroticism	Much of the research dealing with smoking and personality is ambiguous and inconclusive.	Review the general characteristics of neurotic behavior.	Many investigators insist that a vague relationship exists between the smoking habit and the neurotic personality. Variations in research techniques and conceptualization of neurotic behavior have precluded meaningful results.
2. Psychoanalytic theory a. Oral hypothesis			Psychoanalysts have theorized that smoking (like thumb-sucking) is a repressive oral activity related to the pleasure sensation. They further believe that male thumb suckers are more likely to smoke

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			and drink in adult life. Support of the oral hypothesis comes from the observation that individuals who stop smoking frequently increase their food consumption and thereby continue gratifying themselves orally.
b. Disagreement by other researchers			
c. Masculinity characteristics		Students might "brain storm" on findings of Harvard study, reacting to the research design and the findings.	Between 1933 and 1942, 252 Harvard sophomores (males) were selected for study and they were studied for several years. In this study, smokers (60 smokers) appeared to be much less masculine than nonsmokers. The more they smoked, the less masculine they appeared. "These less masculine persons," states the Harvard study, "tend to have an aversion for strenuous exercise and sports, are apt to be low in physical fitness for hard muscular work and are often poor in muscular coordination." Because only 60 nonsmokers were included in the 252 subjects and the size of the sample limits the validity of the findings. The question of what constitutes "masculinity" also limits these conclusions.
B. Demographic Factors			
1. Age	Most young people do not smoke before age 12, but after this age, the prevalence of smoking steadily increases.	As a class activity, have students suggest a format for a questionnaire designed to determine the following information: age of first experimentation with smoking	Available data indicate that few children smoke before the age of 12, probably less than 5% of the boys and less than 1% of the girls. After age 12, there is a fairly steady increase in the prevalence of smoking. At the

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		. grade level . sex . current status as smoker . if a smoker, has the amount of smoking increased since beginning the habit? . average weekly cost of maintaining the smoking habit . would you like to stop smoking? . other pertinent information The use of this questionnaire throughout the secondary grades could elicit valuable information which might have implications for an "all school" anti-smoking campaign.	12th grade level between 40 and 55% of the young people smoke. There is a further increase up to 40 years of age, after which a decline is observed. In the 65 plus age group, smoking is habitual in approximately 20% of the males and 4% of the females. Probably 10% of smokers begin in the pre-teen years and 65% during their high school years.
2. Socioeconomic level	The lower socioeconomic levels appear to have proportionately more smokers, who start smoking at younger ages, than higher socioeconomic levels.		Despite variations in the use of criteria to differentiate various socioeconomic levels, there is consistent evidence that smoking patterns are related to socio-economic levels. Lower or working classes contain more smokers and earlier starters. Curiously enough, income level does not appear to be consistently related to the prevalence of smoking.
3. Occupation	Inconclusive studies have demonstrated smoking habits to be related to occupational status in many ways.	Discuss various reasons why lower socioeconomic groups have proportionately more smokers who began their habits at earlier ages.	Farm workers generally have a lower smoking rate than professional workers. The unemployed are more likely to smoke than the employed. One research suggests that smokers change jobs more frequently than

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			nonsmokers. White collar, professional, managerial, and technical occupations contain fewer smokers.
4. Education		A summary of the article, "Smoking and High School Performance" in the American Journal of Diseases of Children, (August 1964) might be interesting to your students.	Those occupations requiring more education tend to have a lower prevalence of smokers. Any additional relationships between smoking and highest education level attained are unclear.
5. Sex	Fewer females than males smoke, but the incidence of smoking is increasing at a faster rate than among men.	Perhaps your class could suggest programs or presentations which might be effective if presented to students in the intermediate grades. Your students could be involved in these programs.	Fewer females than males smoke and their smoking is almost entirely restricted to cigarettes. The proportion of women smokers has increased faster than that of men smokers in recent years.
6. Race	No significant racial differences in patterns of smoking have been demonstrated.		The proportion of smokers is essentially the same among whites and nonwhites in the United States. Many more heavy smokers (those who smoke more than one pack a day) are found among white males and females than in similar groups of nonwhites.
III. Smoking Research and Reports			
A. American Cancer Society Study (1958)		A class member might write to the American Cancer Society to request a copy of the questionnaire used in their research.	This study was directed by E.C. Hammond and D. Horn.

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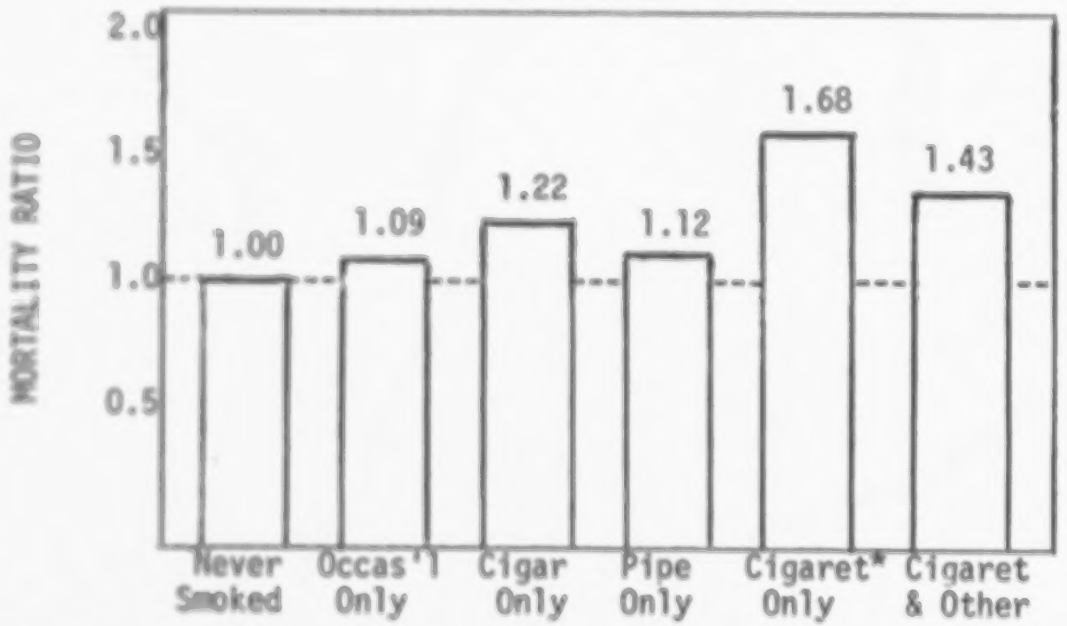
1. Mechanics of Study		Have students react to the design of the American Cancer Society Study (i.e., Was the sample population selected in such a way to reveal valid results? Were urban and rural centers included? Perhaps students can suggest the strengths and weaknesses of this research.	After designing and pretesting a questionnaire in 1951, more than 22,000 A.C.S. volunteers were trained as interviewers for the study. A total of 187,873 males, between the ages of 50 and 69 were enrolled from 394 counties in 9 states. Each of these men were followed up for a period of 44 months.
2. Findings			
a. Total death rates, nonsmokers and smokers	The nonsmoker is much less apt to die from lung cancer than the smoker. (Chart 1, page 77)		During the follow-up period, 11,870 deaths were reported in the sample population. Of these, 2,249 were attributed to cancer.
	The total death rates increased progressively with the number of cigarettes smoked. (Chart 2, page 78)	Students may prepare posters showing that cancer death rates increase as the number of cigarettes smoked increases. Selected posters may be displayed in your school.	The total death rate, from all causes combined, was far higher among cigarette smokers than among pipe and cigar smokers and among nonsmokers, and the death rate increased in direct relation to the amount of cigarette smoking. See Charts 1 and 2, pages 77 & 78. In Chart 1 and others presenting "mortality ratios," the number of deaths of those who never smoked is expressed as 1.00, and the other categories are compared to it by expressing their mortality in ratio to 1.00.
b. Discontinuation of smoking habit	Smokers who discontinue the habit have a total death rate considerably lower than men who continue to smoke.	What facilities are available in your community to help smokers quit their habit?	See Chart 3, page 79; and Chart 6, page 82.

REFERENCES	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Specific causes of mortality	Death rates from cardiovascular disease, cancer, and other pulmonary diseases are significantly higher among those who smoke.	Show the film - "Smoking--The Inside Story," available from Michigan Cancer Foundation, 4811 John R. Street, Detroit, Michigan 48201.	See Charts 4 and 5, pages 80 and 81.
B. Report of the Surgeon General's Advisory Committee	The most comprehensive and widely accepted smoking research to date, was conducted by the U.S. government in 1962.	Select a small committee to report on the activities which immediately preceded the recommendation of the Surgeon General (Smoking and Health.)	On June 7, 1962, the Surgeon General announced that he was establishing an expert committee to undertake a comprehensive review of all data on smoking and health. The President later in the same day approved this proposal.

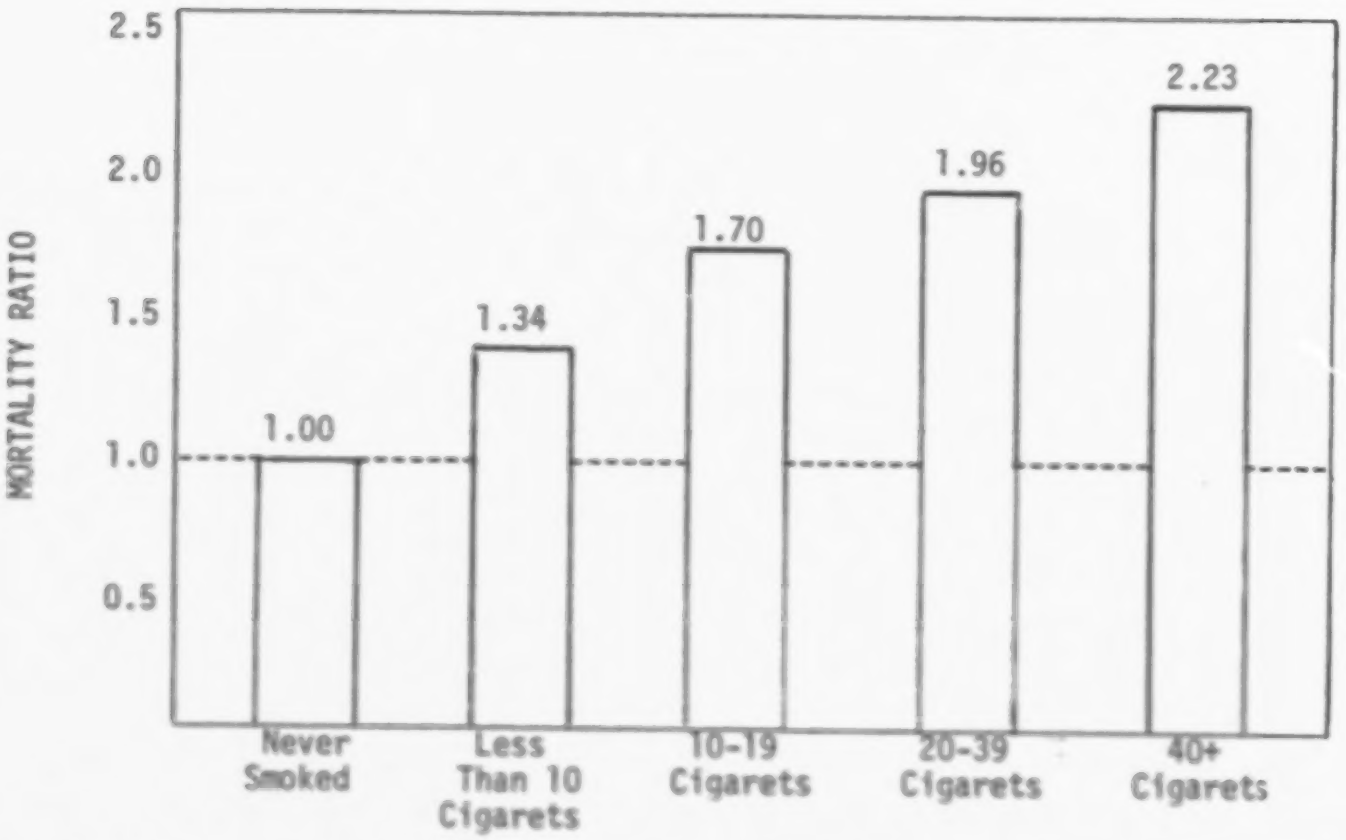
Chart 1
MORTALITY RATIOS: TOTAL DEATHS



Mortality ratios for total causes of death by lifetime history of smoking.

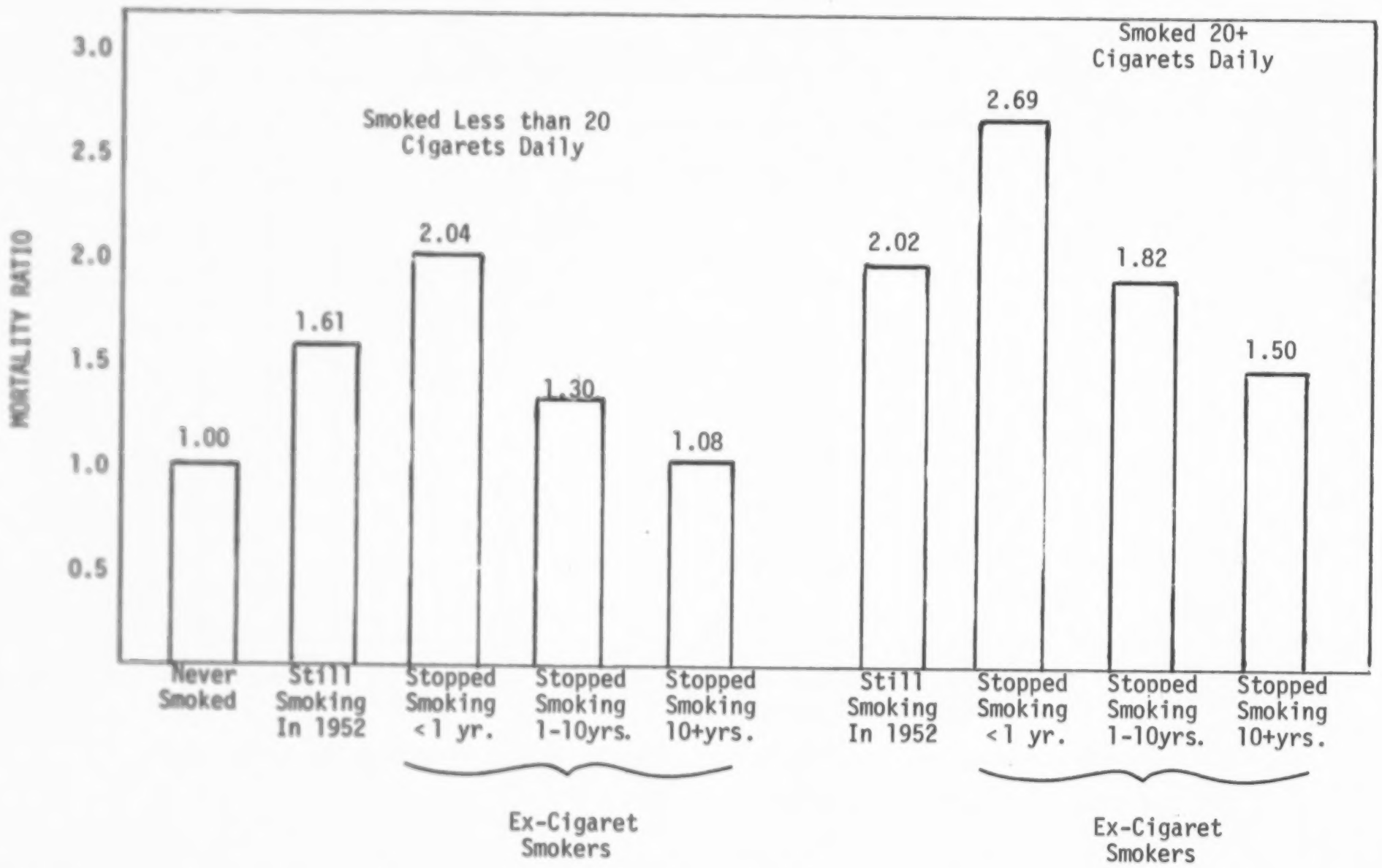
*The abbreviated form, "cigaret" is used as it appears in the original charts from which these have been adapted.

Chart 2
MORTALITY RATIOS: TOTAL DEATHS



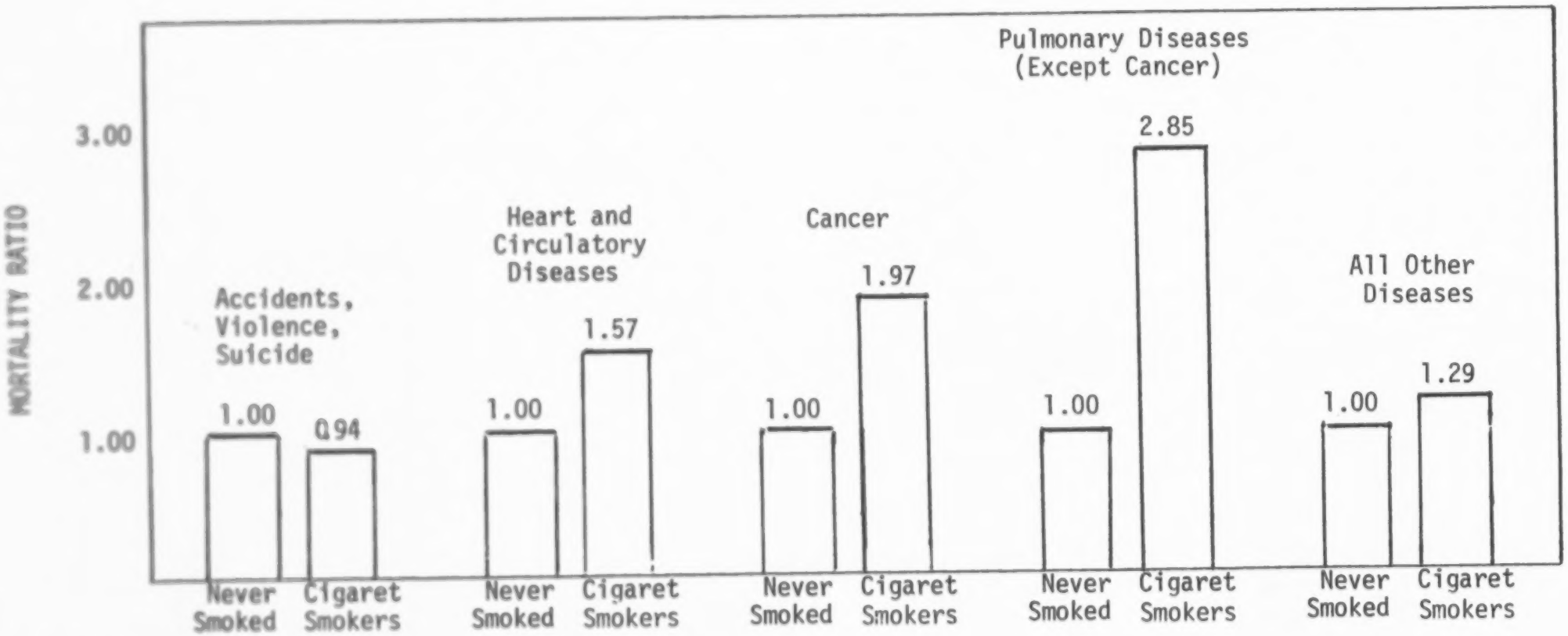
Mortality ratios for total causes of death by number of cigarettes smoked daily at time of enrollment in study.

Chart 3
MORTALITY RATIOS: TOTAL DEATHS



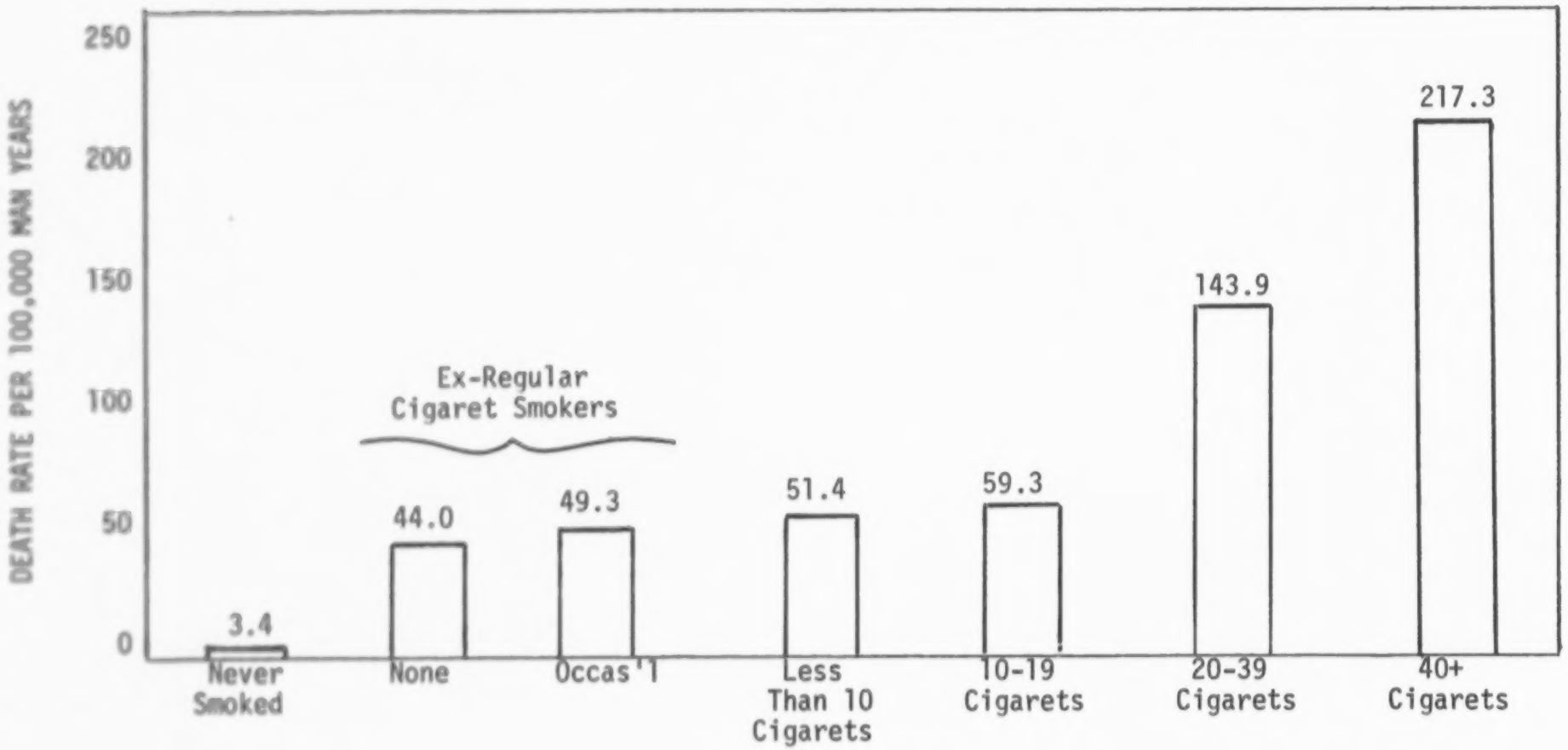
Mortality ratios for total causes of death of men who have stopped smoking cigarettes, men who never smoked, and men still smoking cigarettes at beginning of study.

Chart 4
MORTALITY RATIOS: MAJOR CAUSES OF DEATH



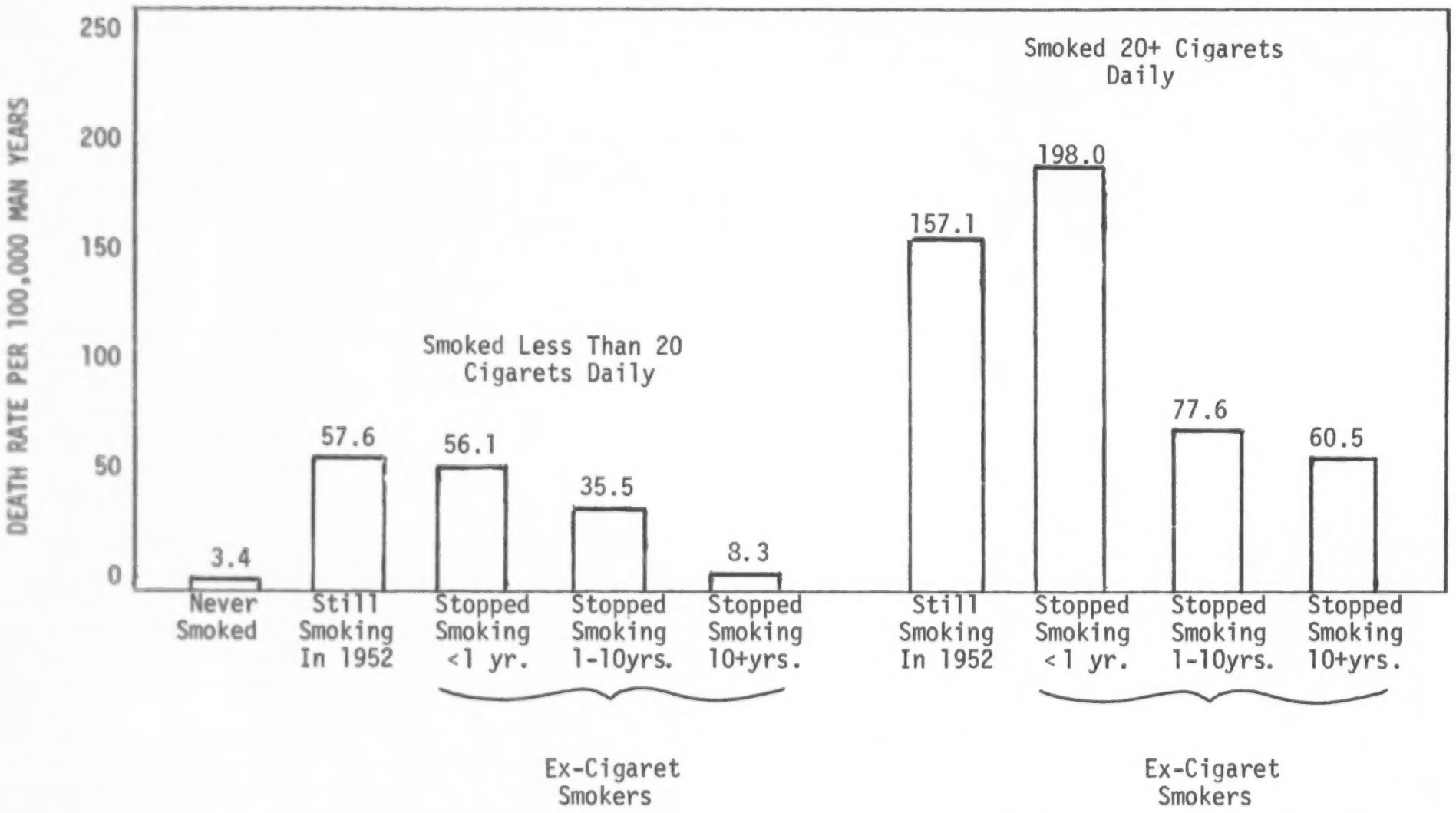
Mortality ratios for major causes of death for cigarette smokers compared to men who never smoked.

Chart 5
DEATH RATES: LUNG CANCER (Confirmed Diagnosis)



Age standardized death rates due to verified cases of bronchogenic carcinoma (exclusive of adenocarcinoma) by number of cigarettes smoked daily.

Chart 6
DEATH RATES: LUNG CANCER (Confirmed Diagnosis)



Age standardized death rates due to verified cases of bronchogenic carcinoma (exclusive of adenocarcinoma). Rates for men who have stopped smoking are compared with those for men who never smoked and those for men still smoking at beginning of study.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
1. Conduct of the Study	Evidence presented by American tobacco interests was considered in preparing the Surgeon General's Report on smoking and health.		A committee of experts carefully reviewed all research published prior to 1960.
2. Types of Evidence	Three major sources of information were used to compile research findings for the Surgeon General's Report.	Arrange for your class to present a program on the Report of the Surgeon General's Advisory Committee to your local P.T.A. organization.	All major tobacco companies were requested to submit evidence and statements. Subcommittees analyzed the data and prepared reports.
a. Animal experiments		Request information from Roswell Park Memorial Institute about animal experiments in cancer research.	As a result of several studies involving experimental animals, seven specific carcinogens were isolated in tobacco smoke. Other substances, not carcinogenic in themselves, were shown to lower the threshold to a known carcinogen.
b. Clinical and autopsy studies			These studies included observations of thousands of patients and autopsy studies of smokers and non-smokers. Three kinds of cellular changes were observed to be more prevalent in smokers than non-smokers: 1. loss of ciliated cells 2. thickening of cells 3. formation of atypical cells
c. Population studies			
(1) Retrospective studies		Illustrate the use of a "control group" in the validation of an investigation.	Retrospective studies -- the smoking histories of persons with specified diseases were compared

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			with those of appropriate control groups without the disease. These studies demonstrated that proportionately more cigarette smokers are found among lung cancer patients than in the control populations without lung cancer.
(2) Prospective studies			Prospective studies -- large numbers of men answered questions about their smoking or nonsmoking habits. Death certificates were obtained for those who died since entering the study, allowing the committee to determine total death rates and death rates from specific causes.
3. The Findings			
a. Cancer by site			(See the direct quotation from Surgeon General's Report, Smoking and Health at the end of this section, pages 91 - 94.
(1) Lung cancer	Cigarette smoking is causally related to lung cancer in men, and the data for women, though inconclusive, point in the same direction.		
(2) Oral cancer	There appears to be a relationship between pipe smoking and lip cancer.	Students might work with representatives of local official and voluntary health groups for the preparation of exhibits for your school health or science fair.	
(3) Larynx	Smoking is a significant factor in causing laryngeal cancer in males.		

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(4) Esophagus			
(5) Urinary bladder			
(6) Stomach	No relationship has been established between stomach cancer and smoking.	The film, "Is Smoking Worth It?," available from American Cancer Society, would be useful in stimulating student discussion.	
b. Chronic bronchitis and pulmonary emphysema			
c. Cardiovascular disease	It is established that male cigarette smokers have a higher death rate from coronary disease than do nonsmokers.		In a recent study in Albany, N.Y., nearly 2,000 middle-aged men were studied for a period of 8 years. Among these subjects, those who smoked one pack or more of cigarettes daily, there was a threefold increase in the risk of myocardial infarction over nonsmokers or former smokers.
d. Other conditions			
(1) Peptic ulcer	There is an unclear association between peptic ulcers and cigarette smoking.		
(2) Cirrhosis of the liver			
(3) Maternal smoking and infant weight	Women who smoke cigarettes during pregnancy tend to give birth to smaller babies.		
(4) Smoking and accidents	Smoking is clearly a cause of many home fires.	If your school has closed circuit T.V., your students might plan a television production about smoking and health. This could	

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		be geared for specific grade level or for the entire school population.	
IV. Smoking Among High School Students A. American Cancer Society (1958) Research by Horn, et. al. 1. Purposes		The last part of this unit lends itself to student research within the school and community. Active involvement of students in determining school and community smoking patterns is an effective way to increase student interest in the dangers of smoking.	Begun in 1958, this study was undertaken to seek data about the following: 1) the amount and patterning of smoking among school students 2) factors that distinguish smokers from nonsmokers 3) motivations involved in beginning the smoking habit 4) approaches that might be used to influence behavior
2. Mechanics See November 1959 issue of American Journal of Public Health for details of this study.			Administered unsigned questionnaire on smoking habits and background data to all the students in the 11 public and 5 parochial high schools in Portland, Oregon. In the outlying areas of Portland, 5 additional high schools (urban) were chosen. Nearly 22,000 high school students took part in the study, approximately 11,000 boys and 11,000 girls.
3. Findings		Encourage your students to develop an all-school study to determine the smoking patterns of secondary students.	
a. Distribution of smoking behavior	The number of young smokers increases proportionately from grade 9 through grade 12.		The proportion of students never having smoked declined steadily during the four school years.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Develop a questionnaire with your students and appoint a committee to present your class research proposal to the school administration. Arrange for an announcement in assembly, during homeroom periods, etc., to inform the student body of your interest in their cooperation.	Approximately 25% of the males and 20% of the females were smokers. Each successive school grade had a higher percentage of smokers than the preceding class:
	The amount smoked by the average smoker increases as he progresses from the freshman year to the senior year of high school.	Student committees, with teacher direction, may assume responsibility for preparing and distributing the questionnaire, and tabulating the results. Following the tabulation of your data, each student should be allowed to analyze the research findings and draw his own conclusions from the study. Devote a class period to individual reporting on the conclusions reached by class members.	

Class	% of Smokers	
	Male	Female
Freshman	14.5	4.6
Sophomore	25.2	10.6
Junior	31.1	16.2
Senior	35.4	26.2

The amount smoked by the average smoker increased from the freshman year to the senior year.

b. Parental smoking behavior	Parental smoking behavior is significantly related to the smoking behavior of high school students.		Of all 22,000 students in the study 35% had parents both of whom smoked, 27% reported that only their father smoked, and 4.4% reported that only their mother smoked.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Parental education level	The level of parent education is related to the age at which their children start smoking.		% of Student Smokers Boys / Girls Both Parents Smoke: 31.9 / 18.5 One Parent Smokes: 25.9 / 13.1 Neither Parent Smokes: 16.7 / 6.8 Data suggested that in families of parents with a low educational level, smoking is begun at an earlier age, but that educational level does not affect whether or not smoking is eventually taken up within the high school years.
d. Extracurricular activities	Boys who participate in athletics appear to have a lower "smoker rate" than boys who do not participate in athletics.	Prepare a summary of your research design, findings, and conclusions and distribute it throughout the school. Perhaps the local press would be interested in printing an account of your work. Perhaps your student council, school or community health council, P.T.A., or similar groups could work jointly with representatives of your class, to develop recommendations based on your findings.	Boys who participate in athletics had a proportionately lower "smoker" rate than those not participating. The percentage of smokers was higher among those students who did not participate in cocurricular activities other than sports.
B. Newton, Massachusetts, Study		Distribute reprints of the Newton, Massachusetts, study (December 1961 issue of the American Journal of Public Health) and assign this	In 1959, a "smoking pattern" questionnaire was completed by approximately 2,800 students (grades 7 - 12) in the Newton, Mass. public high schools.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
1. Purpose of Study		reading to your class. Students' natural curiosity should cause them to wonder whether the findings of this research might be applied to their own situation.	The study was designed to yield pertinent data relative to student smoking patterns, social class and parental smoking
2. Student Smoking Patterns by Social Class	Student smokers from lower socioeconomic groups appear, in general, to be heavier smokers than those from higher socioeconomic groups.	Discuss possible criteria for determining one's social class. (Family income is probably the most feasible for your purposes.)	For both sexes the percentage of smokers was highest in lower socioeconomic groups. The proportion of students smoking one to four packs of cigarettes each week and those smoking five or more packs per week is approximately twice as high in the lowest as in the highest socioeconomic category.
3. Parental Smoking Patterns by Social Class		Secure administrative approval of your proposal and prepare a questionnaire to be completed anonymously by the families of students in your school. (It will be necessary to emphasize the importance of anonymity, for obvious reasons.) Student committees, with close teacher supervision, can construct a questionnaire to elicit information similar to that in the Newton Study.	Researchers asked students to classify parents as: regular smokers, occasional smokers, nonsmokers. More fathers were classified as regular smokers than were mothers. Among the mothers, there were no significant trends relative to socioeconomic group and distribution in any of the smoking categories. However, among fathers, the proportion of regular smokers increased and the proportion of nonsmokers decreased substantially, with

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		A cover letter, encouraging family participation could be prepared by your class and distributed with the questionnaire. Arrange for committees to tabulate the results of your returns.	decreasing social class. If one spouse smokes, there is an increased probability that the other spouse will also smoke.
4. Influence of Parental Smoking on Students' Smoking Behavior	The association of student smoking with parental patterns is striking.		Student families categorized as follows: 1) both parents - smokers 2) both parents - nonsmokers 3) one parent a smoker, the other a nonsmoker
		Encourage your class to prepare a program for interested parents, P.T.A., etc., in which they present the results of their research. Make the following pamphlets available at the end of your program: 1) Facts for Teenagers, Smoking, Health and You 2) Your Teenage Children and Smoking 3) You Can Quit Smoking: Young Smokers Aren't Really Hooked (Schools and organizations can obtain 50 copies of each of these publications free from the Children's Bureau, Department of Health, Education and Welfare, Washington, D.C., 20201.)	The association of student smoking with parental smoking patterns is quite striking. In families where both parents smoked, the frequency of heavy smoking by students was much more frequent than in families where both parents were nonsmokers.

CANCER BY SITE

Lung Cancer

Cigarette smoking is causally related to lung cancer in men; the magnitude of the effect of cigarette smoking far outweighs all other factors. The data for women, though less extensive, point in the same direction.

The risk of developing lung cancer increases with duration of smoking and the number of cigarettes smoked per day, and is diminished by discontinuing smoking.

The risk of developing cancer of the lung for the combined group of pipe smokers, cigar smokers, and pipe and cigar smokers, is greater than for nonsmokers, but much less than for cigarette smokers. The data are insufficient to warrant a conclusion for each group individually (Chapter 9, p. 196).

Oral Cancer

The causal relationship of the smoking of pipes to the development of cancer of the lip appears to be established.

Although there are suggestions of relationships between cancer of other specific sites of the oral cavity and the several forms of tobacco used, their causal implications cannot at present be stated (Chapter 9, pp. 204-205).

Cancer of the Larynx

Evaluation of the evidence leads to the judgment that cigarette smoking is a significant factor in the causation of laryngeal cancer in the male (Chapter 9, p.212).

Cancer of the Esophagus

The evidence on the tobacco-esophageal cancer relationship supports the belief that an association exists. However, the data are not adequate to indicate whether the relationship is causal (Chapter 9, p. 218).

Cancer of the Urinary Bladder

Available data suggest an association between cigarette smoking and urinary bladder cancer in the male, but are not sufficient to support a judgment on the causal significance of this association (Chapter 9, p. 225).

Stomach Cancer

No relationship has been established between tobacco use and stomach cancer (Chapter 9, p. 229).

NON-NEOPLASTIC RESPIRATORY DISEASES, PARTICULARLY CHRONIC BRONCHITIS AND PULMONARY EMPHYSEMA

Cigarette smoking is the most important of the causes of chronic bronchitis in the United States, and increases the risk of dying from chronic bronchitis.

A relationship exists between pulmonary emphysema and cigarette smoking but it has not been established that the relationship is causal. The smoking of cigarettes is associated with an increased risk of dying from pulmonary emphysema.

For the bulk of the population of the United States, the importance of cigarette smoking as a cause of chronic bronchopulmonary disease is much greater than that of atmospheric pollution or occupational exposures.

Cough, sputum production, or the two combined, are consistently more frequent among cigarette smokers than among nonsmokers.

Cigarette smoking is associated with a reduction in ventilatory function. Among males, cigarette smokers have a greater prevalence of breathlessness than nonsmokers.

Cigarette smoking does not appear to cause asthma.

Although death certification shows that cigarette smokers have a moderately increased risk of death from influenza and pneumonia, an association of cigarette smoking and infectious diseases is not otherwise substantiated (Chapter 10, p. 302).

Cardiovascular Disease

Smoking and nicotine administration cause acute cardiovascular effects similar to those induced by stimulation of the autonomic nervous system, but these effects do not account well for the observed association between

cigarette smoking and coronary disease. It is established that male cigarette smokers have a higher death rate from coronary disease than nonsmoking males. The association of smoking with other cardiovascular disorders is less well established. If cigarette smoking actually caused the higher death rate from coronary disease, it would on this account be responsible for many deaths of middle-aged and elderly males in the United States. Other factors such as high blood pressure, high serum cholesterol, and excessive obesity are also known to be associated with an unusually high death rate from coronary disease. The causative role of these factors in coronary disease, though not proven, is suspected strongly enough to be a major reason for taking countermeasures against them. It is also more prudent to assume that the established association between cigarette smoking and coronary disease has causative meaning than to suspend judgment until no uncertainty remains (Chapter 11, p. 327).

Male cigarette smokers have a higher death rate from coronary artery disease than nonsmoking males, but it is not clear that the association has causal significance.

OTHER CONDITIONS

Peptic Ulcer

Epidemiological studies indicate an association between cigarette smoking and peptic ulcer which is greater for gastric than for duodenal ulcer (Chapter 12, p. 340).

Tobacco Amblyopia

Tobacco amblyopia (dimness of vision unexplained by an organic lesion) has been related to pipe and cigar smoking by clinical impressions. The association has not been substantiated by epidemiological or experimental studies (Chapter 12, p. 342).

Cirrhosis of the Liver

Increased mortality of smokers from cirrhosis of the liver has been shown in the prospective studies. The data are not sufficient to support a direct or causal association (Chapter 12, p. 342).

Maternal Smoking and Infant Birth Weight

Women who smoke cigarettes during pregnancy tend to have babies of lower birth weight.

Information is lacking on the mechanism by which this decrease in birth weight is produced.

It is not known whether this decrease in birth weight has any influence on the biological fitness of the newborn (Chapter 12, p. 343).

Smoking and Accidents

Smoking is associated with accidental deaths from fires in the home.

No conclusive information is available on the effects of smoking on traffic accidents (Chapter 12, p. 345).

SMOKING AND HEALTH

STUDENT REFERENCES (GRADES 4-12)*

Pamphlets

American Cancer Society (local unit). New York.
Answering the most-often-asked questions about cigarette smoking.
I'll choose the high road.
Shall I smoke?
To smoke or not to smoke.
Where there's smoke.
Your health and cigarettes.

New York State Tuberculosis and Respiratory Disease Association, Inc. New York.
Here is the evidence - you be the judge.

Public Affairs Committee. New York.
Cigarettes and health. Public Affairs Pamphlet No. 220A. 1962.
Emphysema - why the breath of life falters. Public Affairs Pamphlet No. 326.
Smoking - the great dilemma. Public Affairs Pamphlet No. 361.

U. S. Department of Health, Education and Welfare. Washington.
Facts for teen-agers, - smoking, health, and you. Children's Bureau Publication No. 424-1964. 1966.
A light on the subject of smoking. Children's Bureau Publication No. 448-1966. 1966.
Why Nick the cigarette is nobody's friend. Children's Bureau Publication No. 447-1966. 1966.
You can quit smoking. Children's Bureau Publication No. 433-1965. 1965.

New York State Department of Health. Albany, N.Y.
Freckle-faced Jimmy.

*Designated as SR (Student References) in teaching unit.

Periodicals

Changing Times.
"Cigarette ads: a study in irresponsibility." 16:33-36. December 1962.
"Teen-agers and cigarettes." 16:15-18. March 1962.

Fortune. "Embattled tobacco's new strategy." 67:100-102. January 1963.

Newsweek. "To teen-age smokers." 61:86. April 8, 1963.

Senior Scholastic.
"Athletes in smoke switch." November 22, 1963.
"Smouldering issue." 86:20. February 11, 1965.

U.S. News. "Cigarette warning, the aftermath." 56:38-39. January 27, 1964.

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TEACHER REFERENCES

This reference list may be useful to teachers of all grade levels, 4-12

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James, G. & Rosenthal, T. *Tobacco and health.* Springfield, Ill. Thomas. 1963.

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Packard, Vance. *The hidden persuaders.* New York. Pocket Books. 1957.

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Tennant, R.B. *The American cigarette industry.* New Haven. Yale University Press. 1950.

Pamphlets

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New York State Committee on the Hazards of Smoking. Albany, N.Y., c/o New York State Department of Health. *Materials available in New York State on hazards of smoking.* 1967.

Public Affairs Committee. New York. *Smoking - the great dilemma,* by Brecher, Ruth & Brecher, Edward. Public Affairs Pamphlet No. 361. 1964.

Science Research Associates, Inc. Chicago. *Facts about smoking and health,* by Salber, E.J. 1965.

U.S. Department of Health, Education and Welfare. Washington.
A quick reference guide to the report: smoking and health. Report of the Advisory Committee to the Surgeon General of the Public Health Service. PHS Bulletin No. 1103-E. 1965.
Tobacco consumption in the United States, 1880-1955, by Milmore, B.K. & Conover, A.G. Addendum Public Health, Monograph No. 45. 1956.
Your teen-age children and smoking. Children's Bureau Publication No. 423-1964. 1964.

Periodical Articles

Baumgartner, Leona. "The facts of teenage smoking." Parents Magazine. October 1960.

"Cigarette ads: a study in irresponsibility." Changing Times. 16:33-36. December 1962.

"Teen-agers and cigarettes." Changing Times. 16:15-18. March 1962.

"Cigarette warning, the aftermath." U.S. News. 56:38-39. January 27, 1964.

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"Don't let tobacco trap your teen-ager." The PTA Magazine. 55:4-7. March 1961.

"Drive for the teen-age market." The PTA Magazine. 58:23-24. October 1963.

"Embattled tobacco's new strategy." Fortune. 67:100-102. January 1963.

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Lawton, M.P. "The psychology of adolescent anti-smoking education." The Journal of School Health. Vol. 33. October 1963.

Newberger, M.B. "Hazards of teen-age smoking." Parents Magazine. 39:51. January 1964.

Rogers and Reese. "Smoking and high school performance." American Journal of Diseases of Children. Vol. 108. August 1964.

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Schneider, Elsa. "What part will the schools play?" School Life. 46:18. August 1964.

Silver, G.A. "Are cigarettes necessary?" The Nation. May 4, 1963. p. 379.

"Smoking." NEA Journal. 53:66-69. March 1963.

Teachers Guide

The high cost of smoking. New York State Department of Health. 1966.

SMOKING AND HEALTH

SUGGESTED AUDIOVISUAL AIDS

Filmstrips

I'll choose the high road. American Cancer Society, New York State Division, 40 Franklin Street, Rochester, New York 14604. (Local ACS unit.)

Life in Jamestown. Curriculum Materials Corporation, 1318 Vine Street, Philadelphia 7, Pennsylvania.

Nature's filter. American Temperance Society, 6840 Eastern Avenue, N.W., Washington 12, D. C.

To smoke or not to smoke. American Cancer Society, New York State Division, 40 Franklin Street, Rochester, New York 14604. (Local ACS unit.)

What about smoking. (with 33 1/3 record). Family Films, Inc., 5823 Santa Monica Boulevard, Hollywood 38, California.

Films

Alcohol and tobacco: what they do to our bodies. Coronet Films, 16 minutes, black and white.

Backbreaking leaf. Syracuse University Film Library, 30 minutes.

Breaking the habit. American Cancer Society, 6 minutes, color.

Cigarama. Sterling Movies, 375 Park Avenue, New York 22, New York, 12 minutes, black and white.

The huffless puffless dragon. New York State Tuberculosis and Respiratory Disease Association, 105 East 22nd Street, New York, New York 10010, 9 minutes, color. (Inquire of local unit.)

Is smoking worth it? American Cancer Society, 19 minutes, black and white.

Point of view. New York State Tuberculosis and Respiratory Disease Association, 105 East 22nd Street, New York, New York 10010. (Inquire of local unit.)

Films (cont'd)

Smoking and lung cancer. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 29 minutes, black and white.

Smoking and you. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 11 minutes, color.

Smoking anyone? Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 25 minutes, color.

Tobacco and the human body. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 15 minutes, black and white.

Tobacco valley. Shade Tobacco Company, River Street, Windsor, Connecticut 06095, 27 minutes.

Who me? Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208, 14 minutes, color.

SOURCES OF ADDITIONAL MATERIALS AND INFORMATION

American Cancer Society, New York State Division (or local unit), 1010 James Street, Syracuse, New York 13203

National Clearing House of Smoking and Health, 4040 N. Fairfax Drive, Arlington, Virginia 12203

New York State Committee on Hazards of Smoking, (an inter-agency committee), Miss Dolores Floss, Coordinator; c/o New York State Department of Health, 855 Central Avenue, Albany, New York 12206

New York State Health Department, James J. Quinliven, M.D., Director of Public Health Education, Albany, New York 12208

____ Miss Dorothy Nelson, Program Director - Smoking Education, 855 Central Avenue, Albany, New York 12206

____ Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York

New York State Heart Assembly, Inc., 3 West 29th Street, New York, New York

New York State Tuberculosis and Respiratory Disease Association, Inc., 105 East 22nd Street, New York, New York 10010

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